

VOLUME 22

MAY 1960

NUMBER

COLLEGE OF COMMERCE AND
BUSINESS ADMINISTRATION
UNIVERSITY OF ILLINOIS
LIBRARY

JUN 7 1960

CHICAGO

CURRENT ECONOMIC COMMENT

UNIVERSITY OF ILLINOIS

Just out . . .

CAPACITY UTILIZATION AND BUSINESS INVESTMENT

Donald C. Streever

An analysis of the relationship of business capital expenditures to variations in the rate of utilization of productive capacity.

The hypothesis that the utilization of capacity is a determinant of investment is dealt with statistically for four major industrial classifications—manufacturing and mining, electric power utilities, communications, and railroads. Interview and other studies of investment determinants are considered also, with special attention given to the role of expectations.

76 pages, \$1.50

BUREAU OF ECONOMIC AND BUSINESS RESEARCH

UNIVERSITY OF ILLINOIS

Box 658, Station A
Champaign, Illinois

CURRENT ECONOMIC COMMENT

Vol. 22

May, 1960

No. 2

CONTENTS

Management and Union Rights in Industrial Establishments . . .	3
MILTON DERBER	
The Allocation of Highway Costs	13
GEORGE W. WILSON	
The Plateau in Life Expectancy	21
FRANK G. DICKINSON	
American Direct Investment in West German Manufacturing Industries, 1945 to 1959	29
EUGENE A. PHILIPPS	
For More Adequate Measurement of Unemployment	
Comment: JOHN B. PARRISH AND OTHERS	45
Reply: PHILIP EDEN	54
Books Reviewed:	
AITKEN, ed., <i>The State and Economic Growth</i>	M. M. Knight
BROWN, <i>Public Housing in Action</i>	A. H. Schaaf
CHURCHMAN and RATOOSH, eds., <i>Measurement:</i> <i>Definitions and Theories</i>	Lee J. Cronbach
FAYERWEATHER, <i>The Executive Overseas</i>	Stewart Y. McMullen
HAIRE, ed., <i>Modern Organization Theory</i>	Harold Guetzkow
NELSON, <i>Railroad Transportation and Public Policy</i>	D. Philip Locklin
SELEKMAN, <i>A Moral Philosophy for Management</i>	Thomas E. Van Dahm
SMITH, <i>Common Stocks and Business Cycles</i>	Robert E. Hill
Books Received	

CURRENT ECONOMIC COMMENT is published quarterly by the Bureau of Economic and Business Research, College of Commerce, University of Illinois. This quarterly presents factual information and interpretive comment on economic developments, business operations, public policy, and related questions of current interest. It is available on request.

The opinions expressed in the articles are the personal views of the respective authors and not necessarily those of the College of Commerce or the University.

Address manuscripts and other communications to Bureau of Economic and Business Research, Box 658, Station A, Champaign, Illinois.

V LEWIS BASSIE, *Director of Bureau*
RUTH A. BIRDZELL, *Editor of Publications*

Editorial Committee

MARVIN FRANKEL, *Executive Editor*
ROBERT W. HARBESON
ROBERT V. MITCHELL
JOHN B. PARRISH

Management and Union Rights in Industrial Establishments

MILTON DERBER

Professor of Labor and Industrial Relations

Institute of Labor and Industrial Relations, University of Illinois

DURING the past year major disputes in the steel, glass, meatpacking, newspaper, longshore, airline, and railroad industries, among others, have dramatically focused public attention on the specific issues of work rules and practices and, underlying these, on the broader and more fundamental question of what rights unions and managements should exercise in the operation of an enterprise. To the student of labor relations this is, of course, no new problem. In one form or another it has troubled the industrial scene since the earliest days of collective bargaining a century or more ago.

The problem has both psychological and economic aspects. For the employer there is first of all the question of freedom to make managerial decisions which he considers to be in the best interest of the enterprise. The shift from owner-management to professional management has also emphasized the concept of a specific set of functions and duties for which management feels it must accept responsibility. Before unions came into the picture

the American employer was traditionally free to run the enterprise as he saw fit, subject only to the pressures of the market. Unionism inevitably limited this freedom of action — first in such areas as wages, hours, apprenticeship, and discharge; later in methods of wage payment, the introduction of technological improvements, and safety conditions; sometimes in the types of materials to be used and the sources of purchase. Moreover, subsequent to union recognition came the further problem of whether to consult or negotiate with union representatives prior to initiating action or to insist on taking actions subject to the union right to raise grievances. Not all employers resisted these encroachments on their former freedom because in highly competitive industries the union often played a valuable role in preventing cutthroat competition and stabilizing conditions. But most of them had to undergo a considerable period of struggle and pressure before they became reconciled to the idea of dealing with a union at all.

A second reason for employer concern about limitations on his freedom to manage is economic. American industry is extraordinarily dynamic. The pressure to innovate, to introduce new methods and new products, to try new materials and equipment—in order to win new customers and to hold old ones—is a powerful and unremitting force. Employers feel a need to make changes rapidly and flexibly whenever the occasion demands. Obstacles to such change are viewed as costly and uneconomic, as sources of inefficiency and hindrances to progress. Many of the current disputes are over rules which employers now regard as obsolete or over procedures which slow down the decision-making process.

Union leaders and members tend to view the problem in very different fashion. In contrast to the managers who have a primary interest in profitability and productive efficiency, the unionists regard their primary function as one of protecting and promoting the welfare of the workers. To them work rules are a device for the protection of workers against displacement from jobs, loss of income, loss of skill, speed-up of work, accident hazards, and the like. These rules are also viewed as a means of preventing employers from treating workers in an arbitrary and highhanded manner. Once they have achieved satisfactory work conditions, workers are likely to be a conservative force in industry. They do not relish changes in their customary ways of doing things. They do not like the idea of being laid off or transferred to other work or of having to learn new skills even though these may make for greater plant effi-

ciency. Their immediate human concerns are more important to them than arguments about productivity and progress. Not that American unionists are hostile to the idea of progress. In comparison with work groups in Britain and on the European continent, all the evidence is to the contrary. But they want safeguards and protective procedures against change which is unduly upsetting.

This concern with protective or restrictive work rules has not ordinarily reflected a desire of unionists to become co-managers or co-determinists. There have been, and are, some union leaders who want equal or superior voice in managerial decision-making for purely ideological reasons or for personal power. But these are exceptional. Most union leaders have been content, except in the broad areas of wages, hours, and working conditions, to leave the initiative to management and to adopt the role of critic or watchdog.

The recent disputes about which we have heard so much, as they relate to management and union rights as distinct from the issue of inflation with which they are often intertwined, reflect the difference in interests and perceptions outlined above. Some managements have wanted to draw a line; they have said to the unions: Beyond this stage we are not prepared to go; we have given up too much of our flexibility and initiative in management as it is. Other managements have in effect said: The unions have encroached too far on our prerogatives; management must regain its earlier freedom to manage, must eliminate rules and practices which were accepted

without adequate consideration or have become obsolete. And the unions have responded: You are trying to turn back the clock, to take away or to refuse safeguards for which we struggled long and bitterly. We are not against new technology and new ways of doing things, but such changes must be made without bringing hardship to our members. Furthermore, we will not agree to give management unilateral power to change rules and practices that have long existed, nor will we give up the right to achieve further safeguards if they seem necessary. The results of the steel and other disputes reveal that once such rules and procedures are established, they are not easily changed.

It is important to recognize (1) that the extent to which unions have limited management freedom has varied enormously from industry to industry and even from plant to plant within the same industry and (2) that these relationships have developed and been modified over long periods of time. The lines are by no means clear cut. In some industries, such as garments, printing, and construction, the unions have achieved functions which are far greater than in the large-scale mass production industries. In garments, for example, the union provides engineering services to employers, regulates subcontracting, imposes restrictions on plant relocation, and has participated in nationwide sales promotion campaigns. In construction the unions serve as the employment referral agencies, control or share responsibility for apprenticeship training, prohibit time study, and in effect regulate job assignments. In the more typical situation,

however, the union role is much more limited.

The 1945 Labor-Management Conference

An attempt to draw a line was made by management representatives at the conference convened by President Truman in 1945 to try to ease the transition in labor relations from a wartime to a peacetime economy. One of the six major labor-management committees at this conference was the Committee on Management's Right to Manage. It was charged with the task of formulating some guides to help minimize industrial disputes over "the inherent right and responsibilities of management to direct the operation of an enterprise." The management representatives took the position that failure to delimit the collective bargaining area would lead ultimately to joint management of the enterprise. They conceded that certain subjects, such as wages, hours, and working conditions, were within the domain of collective bargaining but insisted that others (a list of twenty including products to be manufactured, location of business, layout, and equipment and materials to be used) were exclusive management responsibilities.

The management spokesmen also argued that, in order to ensure maximum efficiency, management should be free to make certain decisions without prior union agreement although the union should have the right to challenge the action subsequently through the grievance machinery. In this list were included items such as discharge

for cause, discipline, and the application of seniority provisions.

This effort to draw specific boundaries between management and union rights was bound to be opposed by the union representatives, since the historical development of the problem had resulted in a wide diversity of rules, and in many industries the proposed boundaries had already been pierced. The conference quickly reached an impasse on the proposal and no agreement materialized.

Impact of Federal Legislation

Since the passage of the Norris-LaGuardia Act of 1932 and particularly since the Wagner Act of 1935, the federal government has played an increasingly important role in labor relations. In certain areas such as minimum wages and overtime pay, it has established specific substantive standards. For the most part, however, federal legislation has dealt with problems relating to the establishment and maintenance of a union-management relationship rather than to its content after collective bargaining has begun. Thus the employer is restrained from committing certain "unfair" labor practices which might forestall union recognition or contribute to destruction of the union. And (under Taft-Hartley) the union is restrained from committing certain "unfair" labor practices which the Congress felt would give it an excessive power over the employer or over individual employees.

As regards the issue of management's right to manage, the legislation is less precise, although it has affected prac-

tice in many important respects. It is an unfair labor practice for either management or union to refuse to bargain collectively if the union represents a majority of the employees in an appropriate bargaining unit; but to bargain collectively is defined only in broad and general terms as follows: "the performance of the mutual obligation of the employer and the representative of the employees to meet at reasonable times and confer in good faith with respect to wages, hours, and other terms and conditions of employment, or the negotiation of an agreement, or any question arising thereunder, and the execution of a written contract incorporating any agreement reached if requested by either party, but such obligation does not compel either party to agree to a proposal or require the making of a concession" (Section 8(d) of the Taft-Hartley Act). The meaning of this language is determined by the National Labor Relations Board and the federal courts.¹ Their decisions, which have become the basis of action for numerous employers and unions, have tended to give fairly broad latitude to the words "terms and conditions of employment," including, for example, retirement plans, employee stock purchase plans, welfare plans, Christmas bonuses, merit increases, and the price of meals in company cafeterias. However, no clear lines have been drawn as to the issues on which bargaining is mandatory; and the parties are free to reach voluntary agreements on any subject except a few specifically made illegal,

¹ For a good brief analysis, see Walter L. Daykin, "The Legal Status of Collective Bargaining," *Labor Law Journal*, Vol. 10, No. 1 (January, 1959), pp. 11-17 and 50.

such as the closed shop or the hot cargo clause.

ILIR Studies of the Problem

In 1955-56 the Institute of Labor and Industrial Relations at the University of Illinois conducted a survey of union-management relations at some fifty of the larger establishments (mostly engaged in manufacturing) in three localities in Illinois — Decatur, East St. Louis, and the Carbondale-Herrin area.² Part of this survey was devoted to the scope and depth of union participation in the decision-making process of the establishment. Although the sample cannot be treated as representative of all of American industry, the findings probably give a pretty fair picture of the situation in a considerable proportion of manufacturing establishments. Space limitations permit only a brief summary here.

(1) The extent to which unions had penetrated the "managerial domain" varied considerably from establishment to establishment, although about half of the establishments experienced approximately the same amount of penetration, with a quarter below and another quarter above.

(2) In general the unions focused their efforts on practices directly related to the job territory and not on financial, sales, or technical engineering matters which may have an indirect impact on jobs. Of the twenty topics which the management representatives at the President's 1945 Conference placed in the exclusive management

category, only four were widely subject to union influence. These were the number of employees on a job or machine, the determination of job content, the level or quality of work performance, and the assignment of new employees — all closely tied to the work situation. In slightly less than 20 percent of the establishments, the union also had a voice on contracting work out and the number of shifts.

(3) About one-third of the unions seemed to be satisfied with the extent of their participation in decision-making but the other two-thirds wanted to extend their influence. The major areas into which they wished to expand included scheduling of operations, contracting work out, selection of new employees, and promotion to supervisory positions.

(4) In those areas where management is often concerned to have initiative in taking action although recognizing the right of the union to raise grievances if dissatisfied with the action, the picture was mixed. On the making of time studies, management almost always made the initial decision while the union acted as griever. Where significant technological changes were involved, however, in about two-thirds of the cases the management was expected to inform or consult with the union prior to taking action, although a prior agreement was not required. Prior consultation was also the rule in most of the establishments on the making of safety rules and in discharge situations.

(5) The majority of managers interviewed were not particularly disturbed over the roles played by their unions although they were inclined to resist

² M. Derber, W. E. Chalmers, and R. Stagner, *The Local Union-Management Relationship* (Champaign: University of Illinois, 1960).

any further incursions. On the general question of union impingement on management authority, almost 20 percent stated that the union was no problem and two-thirds stated that the union interfered a little but not seriously. On the specific items of production and discipline, about two-fifths of the managers felt that the union sometimes interfered although fewer than 10 percent perceived the interference as serious.

(6) Our over-all conclusion was that unions had won some further voice in the decision-making sphere since World War II and that the concept of the "managerial domain" is a flexible and changing one. This does not mean, however, that the trend is pointing inevitably to copartnership or joint management of the enterprise, as management spokesmen feared in 1945. Historically, the union has focused on the job territory, not on the managerial function as such. The crucial decisions of what, how much, where, and how to produce have largely been reserved to management. This survey indicates that the basic focus has not been altered.

In 1959 we conducted another survey similar to the one in 1955-56, returning to 37 of the establishments in the sample. A preliminary examination of the data indicates no significant alteration in the picture presented here. In a number of establishments management has attempted to regain some of the ground which it had given up in recent years. In a few cases these efforts have met with some success — particularly during the 1958 recession period. Most managements, however, have been

content to try to preserve the status quo on union participation and a few have made limited additional concessions.

Reasons for Variation in Union Participation

It may be interesting to consider why it is that relationships vary from plant to plant in respect to the distribution of management and union rights and functions. Professor L. Reed Tripp of the University of Wisconsin, in a highly perceptive article,³ suggests that the answer depends on a whole series of checks and counterbalances, including the relative bargaining power of the parties, the degree of union preoccupation with its basic job interest, the philosophy of management, and public opinion. In our Illinois studies, we examined the correlations between union voice and five separate factors — the type or quality of union-management relationship, the community environment, the nature of the industry, the duration of bargaining experience, and the collective bargaining structure. The results are obviously only tentative in view of the limited size of the sample and the limited time span. We found evidence that the type of relationship, the community environment, and to some extent, the nature of the industry were related to the extent and depth of union voice. Duration of bargaining experience and collective bargaining structure were less clearly related.

The connection between union voice

³ "The Union's Role in Industry — Its Extent and Limits," in Industrial Relations Research Association, *Interpreting the Labor Movement* (Champaign: Twin City Printing Company, 1952), pp. 89-109.

and the quality of the union-management relationship proved particularly revealing because it was not a simple one-to-one connection. In other words, more or less union voice was not directly tied to more or less harmony in the relationship. For example, the two clusters of cases with the highest degree of union participation were extremely different in degree of pressure and attitudinal climate. In one cluster the pressure level was high and so was the level of management hostility to the union. In the other cluster the attitudinal climate was friendly and free of strife. Pretty clearly the management norms or standards on the role of the union in the establishment differed substantially. Other clusters indicated that similar differences existed among unions — some were apparently satisfied with a relatively limited role in decision-making; others wanted more involvement.

The literature contains a good deal of evidence in support of this finding. On the one hand, there are employers who believe in continuous and detailed consultation and collaboration with employee representatives in the interest of a more democratic plant society. On the other hand, there are employers who believe that management has an obligation to determine what is in the best interest of the enterprise, including the shareholders, employees, and customers, and then to see that these matters are put into effect expeditiously and fairly. Some unionists are anxious to be consulted before management takes important actions. Others avoid such consultations so that they can feel free to criticize management in the

event their members object to the actions.

Both the historical record and our contemporary surveys lead to four conclusions: (1) the problem of management and union rights in industry will continue to be a source of friction and conflict for a long time, in part because it poses issues of status, function, power, and prestige but also because it involves the as yet unresolved questions of who shall bear the cost of social change and how these costs shall be allocated; (2) the problem will be intensified as industrial organizations become more complex and as the rate of technological innovation increases, making existing rules out of date or unsuitable — unless we apply a higher degree of imagination than we have displayed recently; (3) the complexities of industrial life make a simple answer unlikely — the drive to establish fixed limits is both unrealistic and unwise; and (4) the type of relationship which is established in any enterprise is, in large measure, within the control of the management and union leaders involved. This is particularly true of the issues involved in this discussion.

In its broadest terms, the issue confronting American society is this: What forms of democratic participation at the work place are most compatible with the economic function of the enterprise to provide a steadily increasing amount of quality goods and services at a price which the mass of consumers can afford? We in the United States have rejected unrestricted authoritarianism of management because it is repugnant to our conception of a free society. We have evidenced equally little

enthusiasm for worker control of the work place both because we doubt its efficiency and because it runs counter to our ideas about capitalism and private property. We are opposed to total governmental control because we dislike and fear excessive centralization of authority.

Within these extremes, however, a wide variety of possible arrangements can and does exist. These arrangements differ in terms of (1) the number and kinds of issues which are subject to joint decision-making and (2) the procedures which are followed in the day-to-day operation of the enterprise. By and large, American unions have concentrated their attention on issues closely related to the "job territory" and have been content to exercise a watchdog function rather than seek a co-management responsibility in the administrative process. Interest in extending union participation into such spheres as price-setting and plant location undoubtedly exists in some union quarters; but a general widening of the scope of union participation is not likely in the foreseeable future. In the first place, the unions are not philosophically motivated in this direction. Moreover, they are hardpressed to maintain their present positions in the face of rapid technological and industrial change and the stiffening attitude of managements against further concessions. Nor are the unions likely to gain any additional consultative or determinative functions in the immediate future—the pressures are all to the contrary.

Resurgence of a managerial "will to lead" after nearly two decades of union initiative and advance is a not-surprising

accompaniment to a managerial process which has swept industry to unprecedented levels of productivity and promises even more revolutionary developments in the future. Achievement nourishes confidence. And when the opposition is weakened by internal frictions (e.g., the building trades-industrial union conflict) and by external criticism (e.g., the McClellan Committee hearings and reports), the confidence is compounded.

On the other hand, the swing in the pendulum of bargaining power in management's favor is not likely to lead to significant changes in established patterns of decision-making within industry. The collective bargaining process is too firmly ingrained in our legal, political, and economic framework. Small and subtle changes making for more or less flexibility in procedures and rules are possible and indeed likely. But a substantial alteration would necessitate drastic political and economic shifts which do not appear imminent. Short of some major domestic or international crisis, we can expect union-management relations to fluctuate within rather narrow limits for some years to come.

Much of the current conflict in industrial relations arises from comparatively small rigidities in work rules and customs which cumulatively may acquire considerable economic significance. (With a few notable exceptions, management today encounters little union opposition to major innovations that are best implemented through the creation of new plants or facilities.) The logic of efficient management calls for a high level of initiative and flexi-

bility in making decisions on change. Restrictions on work assignments, work flow, and size of work groups are particularly annoying to management. But the logic of effective unionization (or any other form of worker organization) resists the idea that the economic as well as the adaptive burden of industrial change shall be borne by the workers through unemployment or downgrading. The unionist would prefer to let the consumer bear the brunt of the economic cost while he tries to minimize the job problems of adaptation to change. Can these logics be reconciled through the process of accommodation without major conflict?

In an atmosphere clouded by fears, mistrusts, inadequate communication, weak leadership, or the lust for power,

conflicts are inevitable. Even where these factors are minimal, the consequences of economic competition may impose serious complications. There are, however, numerous cases to demonstrate the feasibility of successful accommodation under democratic conditions through hard bargaining, a willingness to explore a variety of possible answers to a problem, and imagination to devise new, realistic bases for agreement. This type of accommodation may not yield maximum theoretical economic efficiency, but the measure of modern American enterprise is more than economic and if we can combine high levels of economic performance with a substantial degree of creative group participation at the work place, we can be quite content.

Recent publications . . .

**COLLECTING FINANCIAL DATA BY CONSUMER
PANEL TECHNIQUES**

by *Robert Ferber*

This is the first in a series of technical reports on studies carried out by the Inter-University Committee for Research on Consumer Behavior. It was designed to test the feasibility of obtaining income, savings, and other financial data from consumers by the survey interview technique. The study discusses the methods and procedures used and presents the results obtained.

Clothbound. 177 pages, \$2.50

**CONSUMER-PRODUCT RATING PUBLICATIONS
AND BUYING BEHAVIOR**

by *Hugh W. Sargent*

This monograph attempts to (1) establish the influence of consumer product-testing and reporting services on the purchase behavior of households and (2) relate this influence to audience characteristics. To the established methodology of marketing research the author has applied some concepts and insights borrowed from the relatively new interdisciplinary field of mass communications.

About 85 pages, \$1.50

Still available . . .

**EMPLOYERS' FORECASTS OF MANPOWER REQUIREMENTS: A
CASE STUDY**, by *Robert Ferber*. \$1.50.

EXPERIENCE RATING IN UNEMPLOYMENT COMPENSATION, by
Clinton Spivey. \$1.50.

CHANGING STRUCTURE AND STRATEGY IN MARKETING, *Robert
V. Mitchell, ed.* \$1.50.

BUREAU OF ECONOMIC AND BUSINESS RESEARCH

Box 658, Station A
Champaign, Illinois

The Allocation of Highway Costs

GEORGE W. WILSON

Associate Professor of Transportation, Indiana University

THE PROBLEM of whether highway users as a whole or specific user groups (such as trucks, private autos, or buses) pay their "fair share" of the construction, maintenance, and administrative costs of highways is a crucial one from the point of view of an efficient allocation of economic resources. It affects resource allocation for society as a whole and more specifically it affects the allocation of traffic among the various media of transportation. For society as a whole if highway beneficiaries pay less than their fair share, the increased demand results in an excessive amount of resources devoted to highway construction, assuming public highway expenditures tend to parallel demand. In short, such resources would have yielded greater social benefits elsewhere. Conversely, if highway beneficiaries pay more than their fair share, resources will not be optimally allocated and highway construction will be relatively deficient. In allocating traffic among transport media, if highway users pay less than their fair share, there will be a relative overexpansion of highway transportation at the expense of other media and conversely if such users pay more than their fair

share. In short, both within and without the transportation field serious problems of misallocation occur. Nor is the amount of potential misallocation insignificant. Resources devoted to transportation run to at least \$200 billion¹ and income originating in transportation is between 5 percent and 8 percent of national income. If we are concerned about an efficient allocation of resources and economic progress there is probably no single area more significant than that of transportation, especially when one considers the substantial external economies accruing from increased transport efficiency. Thus highway development and financing becomes a vital issue, both for economic welfare and progress and for national defense.

I.

There are fundamentally two issues here and two major bases for deciding them. The first issue involves when, where, and how much new highway

¹ See Dudley F. Pegrum, "Investment in the Railroad and Other Transportation Industries Under Regulation," *American Economic Review*, Vol. 47, No. 2 (May, 1957), pp. 420-26.

construction to undertake and the second involves how to allocate costs of existing highway facilities among the various users or beneficiaries.

The first problem is simply one of capital expansion, but since highways are not expanded through the impersonal mechanism of a free market, a specific decision on when, where, and how much new construction should be undertaken is involved. There are two bases upon which to make this decision; one is political and the other economic. A political decision considers highway development as simply one facet of general public finance modified by political pressures. Thus, if the funds are available from current or higher tax rates, the political authority may decide to spend them. If it feels that more votes or public sympathy would be secured if a new highway were constructed than if a school or hospital were built or civil service salaries raised, the highway will be constructed. It is evident that problems of economic allocation are largely ignored on this basis, and in the extreme, highway development becomes simply a political football.

The economic criterion would seek to balance the social benefits from highway construction against the cost and alternative benefits from some alternative expenditure. If it is calculated that the excess of benefits over cost is greatest in highway expansion or improvement, the money will be spent on highways. The major difficulty here is that the benefits of such social expenditure are extremely difficult to quantify. They consist of elements of safety, speed, national defense, efficiency, and greater

accessibility to certain regions.² This hodgepodge defies summation in a single figure to place alongside the cost. However, despite this pragmatic difficulty, a careful consideration of relative benefits vis-à-vis costs seems distinctly preferable to a purely political determination and would at least require more thought for efficient resource allocation. The desire of an existing administration to stay in office may not lead to public expenditures which approximate optimum allocation. Nor does the foregoing necessarily imply that economic efficiency is the sole criterion of public investment expenditures, for such expenditures are necessarily constrained by budgetary size, which itself may reflect sensible noneconomic policy. As Steiner has suggested, "the size of the budgets that are restraining leaves economic efficiency in a relatively secondary role. Within the limits imposed, efficiency seems the sensible criterion."³

II.

This problem is, of course, serious enough, but of perhaps greater complexity is the allocation of the annual maintenance, operation, and amortized capital costs of existing highway facilities.

² "Benefits" as used here involve any external economies which may accrue. See, for example, William Fellner, *Trends and Cycles in Economic Activity* (New York: Henry Holt, 1956), p. 343, and Hansen's review of Fellner's work in *Review of Economics and Statistics*, Vol. 39, No. 2 (May, 1957), p. 112.

³ P. O. Steiner, "Choosing Among Alternative Public Investments in the Water Resource Field," *American Economic Review*, Vol. 49, No. 5 (December, 1959), p. 897.

ties. Again, this could be (and for a great many years has been) decided on political grounds as an adjunct of public finance. Criticisms similar to those above apply to this political approach, and indeed, as the Eastern Railroad Presidents case⁴ indicates, the nature of the political pressures often becomes most insidious. Thus, we again prefer the economic criterion for ascertaining the "fair share" of such annual highway costs of the various beneficiaries.

The term "fair share" in economics usually refers to costs. That is, if it could be ascertained that trucks occasion x percent of annual highway costs (in real terms), the aim of the economic criterion would be to collect from trucks an amount equal to x percent of these annual costs. However, it is generally agreed that annual highway maintenance costs are primarily a function of the weather, especially in northern states, rather than of wear and tear occasioned by highway users. Likewise, the annual operating (or administrative) costs are not significantly affected by relative use and the annual capital costs are often more closely related to type of vehicle or simply amortized on a straight-line basis. Although it is possible, via the incremental method, to allocate part of the annual capital costs roughly in relation to the vehicle or axle weights for which the highway was constructed, this also presents numerous difficulties. Thus the cost criterion (referring to cost occasioned by use) is largely inapplicable

so far as the allocation problem is concerned.

But the problem remains that we must collect an amount equivalent to the real annual highway costs if we are serious about allocating resources efficiently. We could always, of course, pay for the highways from general tax receipts but this has numerous allocative shortcomings and puts non-highway transportation at a competitive disadvantage, as the railroads constantly allege. If the cost criterion is inapplicable, we must then turn to a value-of-service principle to allocate the expenses equitably among the various beneficiaries. This is a venerable and justifiable principle for railway rate-making and since highways largely represent sunk costs, the principle is likewise justifiable in this area — that is, value-of-service pricing is an equitable way of allocating the fixed charges.

Who are the beneficiaries from the existence of highway facilities? It is customary to divide the beneficiaries (those to whom the "service has value") into two broad categories, users and nonusers, and subdivide the former into private passenger cars, buses, lightweight trucks, and heavy trucks (a finer breakdown by weight categories is, of course, possible and customary). The nonuser category presents more difficulty in the split-up among beneficiaries, but property owners directly served by highway or road facilities clearly receive a benefit much in excess of their use of such facilities. National defense considerations are also relevant and to the extent that highways benefit the national defense or are constructed in part with a

⁴ *Noerr Motor Freight, Inc., et al. v. Eastern Railroad Presidents Conference et al.*, 155 F.Supp. 768.

view to military potential, the Department of Defense might well be called upon to pay a portion of the bill over and above the user taxes paid by military vehicles. More controversial is the inclusion of "the general public" as a beneficiary which should pay a portion of highway costs. It is clear that anything that benefits society at large also benefits the general public. Why should we, then, make a specific and separate charge to this group for highway benefits received any more than we should charge it with benefits received from, say, lower steel prices? The distinction between these two cases seems to be not absolute but qualitative or relative. That is, highways are *public* facilities constructed oftentimes for broad social benefits which tend to be much more widely distributed than the benefits of steel production. Even though steel (or other private) production also renders a social service, its rationale is not so uniquely bound up with the public interest. Indeed, under the capitalistic ethic, private profit is the initial stimulus to private production. It is, of course, hoped that the pursuit of private profit will coalesce with the public interest through the force of competitive pressures, but it is clear that the connection between the public interest and private production is more indirect than in the case of highway expenditure. Furthermore, some street and highway facilities would be required even if there were no private vehicles in existence. This is amply demonstrated in the Federal Coordinator's Study⁵ and need not be repeated here.

⁵ *Public Aids to Transportation*, Vol. 4 (Washington: Government Printing Office, 1940).

Thus we may legitimately charge the general public for a portion of highway costs in excess of user charges.⁶

Now the railroad industry may well complain that many of its facilities benefit both the general public and the national defense. Indeed, the requirement to continue highly unprofitable passenger service in many areas involving an out-of-pocket loss is clearly in the same category as highway facilities in terms of the relationship to the public interest. It could therefore be argued, on the same grounds as those just given for highways, that the general public should be assessed for all or some proportion of the out-of-pocket loss. This is undoubtedly sound and it can scarcely be denied that the railways are required to perform many noneconomic functions for which they are not, under present arrangements, adequately reimbursed. But to argue that this uneconomic situation for the railways should be perpetuated and extended to highway finance is a most backhanded and illogical solution. If problems occur in one sector of the economy, the solution is not to impose similar uneconomic arrangements in other sectors; rather the solution is to modify the arrangements in the affected sector. Thus while there is merit to the railways' complaint of inadequate remuneration for some of the services provided, there is no merit in extending similar

⁶ Mr. Hale has missed the essential difference between private and public expenditures in his article "Motor Carrier Taxation," *Vanderbilt Law Review*, Vol. 11, No. 4 (October, 1958), pp. 1085-86. Furthermore, it is clearly wrong to assert that the "sole purpose of highways . . . is to serve motor vehicle traffic . . ." as he does (p. 1087).

difficulties to highways; hence the rail proposal to charge all the highway costs to users and none to the nonuser beneficiaries should be rejected.

III.

Various user and nonuser beneficiaries have been indicated. The problem of allocating the costs among them remains. Let us examine what this involves.

To simplify, assume the annual maintenance, operation, administration, and depreciation cost for any given highway system (local, state, or nation) is determined to be \$x million. Part of this determination must, of course, be arbitrary so far as depreciation is concerned, and of course, maintenance and repair expenditures can be deferred to some extent. However, these problems can be resolved on fairly reasonable grounds and do not present insuperable difficulties. These annual aggregate expenditures should be split up among city streets (\$A), county and township roads (\$B), and main intercity highways (\$C) so that $A + B + C = x$. A finer split-up may readily be made, but for purposes of simplicity let us stick to three main road types. As indicated later, the purpose of such a split-up is to acknowledge the different degrees of benefit received by the various beneficiaries from the several road types.

Assume now that the costs (A, B, and C) are assigned to users and nonusers on the basis of n percent assigned to nonusers and m percent assigned to users ($m + n = 100$ percent). The proportions m and n will differ depending upon the type of road under consideration. For example, nonusers prob-

ably receive greater relative benefit from city streets than from intercity highways. Thus, the first assignment must determine the relative percentages of m and n as they pertain to the different roads. Algebraically, the assignment would be as follows:

$$\begin{aligned} \$x = & A(m_a + n_a) + B(m_b + n_b) \\ & + C(m_c + n_c). \end{aligned}$$

In every case the comparable m's and n's = 100 percent. The user charges now need to be assigned to various user groups. Let us assume three main user groups — passenger cars, buses, and trucks — with the percentage of costs assigned to each represented by d, e, and f, respectively, so that $d + e + f = 100$ percent. Similarly, let us distinguish three main non-user beneficiaries — national defense, property owners, and the general public — with the percentage of costs assigned to each represented by g, h, and i, respectively, so that $g + h + i = 100$ percent.

Combining these we have the complete highway allocation model as follows:

$$\begin{aligned} \$x = & A [m_a(d_a + e_a + f_a) + n_a(g_a + h_a + i_a)] + \\ & B [m_b(d_b + e_b + f_b) + n_b(g_b + h_b + i_b)] + \\ & C [m_c(d_c + e_c + f_c) + n_c(g_c + h_c + i_c)]. \end{aligned}$$

A much finer split-up among user and nonuser beneficiaries is possible (and indeed desirable), but this illustrates the basic nature of the allocation problem. That is, we must determine the appropriate percentages to assign to the various m's, n's, d's, e's, f's, g's, h's, and i's. But what criteria do we have for determining these percentages? Let us examine first the split-up between users and nonusers (the m's and n's) gener-

ally and then proceed to the more detailed breakdown.

IV.

Agreement to impose nonuser charges is, of course, only the beginning of the problem, for unless we can come up with reasonable percentages we are still pretty much at sea. The magnitude of the problem is revealed by the fact that fourteen investigations arrived at the following ranges of cost responsibility assigned to nonusers: for city streets, the percentages assigned varied from a low of 27 percent to a high of 85 percent; for secondary and local roads, the assigned percentages ranged from about 10 percent to 90 percent; for primary highways, the high and low percentages were zero to 20 percent.⁷ Such extreme variations clearly indicate that objective criteria are almost totally lacking in the allocation between users and nonusers. All that seems to be established is that the nonuser contribution should decrease as one moves from city streets through local and county roads to primary highways (i.e. that $n_a > n_b > n_c$). Beyond this there is no consensus.

Of almost equivalent difficulty is the split-up among the various nonusers. It is possible a priori to obtain a reasonable assessment of the proper military share by planning road construction independently of the military, then going to the defense authorities for any needed modifications, the cost of which would come entirely out of defense

funds. For property owners, it would be possible to assess the cost of a basic access road. As Meyer and his co-authors argue, "in areas of average population density this road usually would be at least a two-lane construction about eighteen feet wide with three-foot shoulders. . . . In areas of greater population density a low-type bituminous . . . might be needed, while in areas of extremely low population density nothing more than a farm road consisting of two ruts cut through the dirt might be wanted."⁸ Clearly, in terms of relative benefits, access roads confer more benefits to property owners than is evident from their relative use by such owners. This is the essential logic behind assessment of total costs of basic access roads to property owners. That this assessment would not be very objective is obvious.

The contribution by the general public is even more subjective. Yet as the Federal Coordinator pointed out, "the use of streets and highways by motorized fire and police departments and public ambulances and by other motor vehicles used in carrying on the general functions of Government is also to be distinguished from their use by the motoring public or commercial operators."⁹ In short, even with no private vehicles in existence at all, some kind of road system would be essential for provision of basic public services. To this extent, the general public is bene-

⁷ Data taken from C. A. Taff, *Commercial Motor Transportation*, rev. ed. (Homewood, Ill.: Richard D. Irwin, 1955), Table 3-2, p. 64.

⁸ John R. Meyer and others, *The Economics of Competition in the Transportation Industries* (Cambridge: Harvard University Press, 1959), p. 71.

⁹ *Public Aids to Transportation*, op. cit., p. 16.

fitted and should pay whatever costs are involved.

All of the foregoing require a host of essentially arbitrary decisions and are excessively subjective. They are subjects upon which honest men can, and will, honestly differ. Yet until we obtain some reasonable consensus of opinion on these issues, various pressure groups such as the Association of American Railroads and the American Trucking Associations will come to widely different conclusions concerning whether particular user or nonuser groups are paying their "fair share" and we will continue to get more heat than light.

It has frequently been alleged that the allocation among users is more "scientific" and "objective" than among nonusers, but there exists a variety of techniques for making the assignment of cost responsibility or benefits received and, as yet, there is no scientific basis for choosing among them. The incremental (or cost-occasioned) method commends itself to economists as most closely approximating marginal-cost pricing. But even with this method, there are enormous difficulties in deciding on appropriate size and weight classifications against which to assign the incremental costs. Even if this could be done objectively, there are several problems remaining. Should the cost of the basic road be allocated to *all* vehicle classes or only the smallest class? Meyer *et al.* conclude that none of the "initial incremental costs [should] be assessed against the heavy vehicles."¹⁰ This is unlike the usual procedure of allocating the basic road costs to all

vehicle classes and is based upon the assumption that heavier vehicles represent "by-product" traffic. This gets around some difficulties but raises others since many costs, such as grading and clearing, are essentially common and should not be borne entirely by the minimum-size class. Furthermore, the assumption that truck transport is a by-product will scarcely find unanimous acceptance. But if we adopt the more usual practice and allocate basic road costs among all vehicles, we run into the problem of what constitutes the proper conception of output units.¹¹ Do we use vehicle miles, number of vehicles, ton-miles, axle miles, or tons per axle mile to distribute the costs? These are also points over which honest men may differ and hence get vastly different results.

Again, assume that some highways are not constructed to handle the legally permissible loads. It is unquestionable that heavy vehicles will then cause substantial wear and tear. Yet if the states permit such vehicles to use highways which are inadequate for such weights, this would seem to be more a state than a vehicle-operator responsibility. If so, then it scarcely seems fair to assign all of such added costs of maintenance to heavy vehicles. With adequately built highways, little additional wear and tear is caused by heavier vehicles.

The upshot of this discussion is that there is as yet no objective basis for

¹¹ I have discussed some of the complexity of output units in "On the Output Unit in Transportation," *Land Economics*, Vol. 35, No. 3 (August, 1959), pp. 266-76. In the present context it is evident that even greater complications may emerge.

¹⁰ *Op. cit.*, p. 71.

assigning reasonable percentages or figures to the unknowns in the highway allocation model developed in this paper. As a consequence, it is impossible to make anything more than a hit-or-miss, pseudoscientific assessment of cost responsibility. The unfortunate aspect is that various groups can, and do, leap to conclusions based upon excessively shaky assumptions in attempts to influence legislation. Perhaps we can never get agreement among the interested parties, but we should at least make more serious efforts in this direction. In the final analysis, however,

many of the assumptions will remain subjective and optimum allocation will be achieved only by accident. Nevertheless, if attention were to be focused on the key problems (i.e. getting reasonable bases for making the necessary assignments), some progress could be made. This would be a far better procedure than having the various groups conclude that trucks do or do not pay their fair share without examining the reasonableness of the assumptions made to obtain the conclusions, or as is usually the case, without even examining the assumptions themselves.

The Plateau in Life Expectancy*

FRANK G. DICKINSON

Research Staff, National Bureau of Economic Research

WILL AVERAGE LIFETIME, which increased so rapidly in the first half of this century in the United States, continue to lengthen? Apparently the Census of Population of 1960 coupled with the death statistics of 1959-61 will indicate clearly that we have come to the end of a glorious period of rapid increase in the average length of life. The forthcoming statistics will likely show that expectation of life at birth in the United States in 1960 was about 70.0 years, possibly 70.2 years, an increase of only 1.8 or 2.0 years above the level of 1950. In the previous half-century the gain was 21 years, better than 4 years a decade. (The changing age structure of the population is a separate subject.)

If the 1950's had been devoid of medical progress, this gain of only two years during the decade might not seem so indicative. But during the present decade we have had remarkable improvements in medical care, particularly in surgery and diagnosis.

The forthcoming statistics on length of life will also probably indicate that

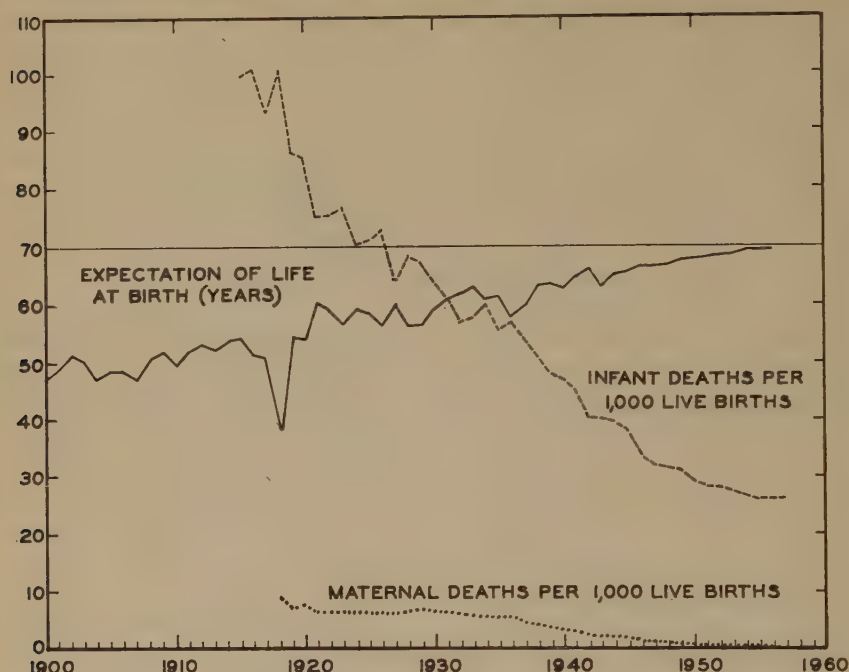
if we could miraculously have no deaths in the United States among persons under 45 years of age, the expectation of life at birth would accordingly be increased by only four years. We have truly come to the end of an era, and future prospects need to be examined with great care.¹ Perhaps there is no better way to look at this future than to think of the Biblical three score years and ten as a gently rising plateau of length of life.

One already reads disturbing reports of slight increases in infant mortality. In the last two years the rate has risen slightly from 2.6 percent to 2.7 percent. The reduction of infant mortality rates from over 15 percent to about 2.5 percent is one of the great triumphs of the twentieth century and the cornerstone of the 21-year increase in length of life. The problem seems to be to keep it at that level and to prevent it from rising. It is perhaps reasonable to expect that the rate will be lowered irregularly to 2 percent and in the distant future to 1.5 percent. Maternal mortality is apparently stabilized at the very low level of .04 percent. Certainly there is little

* Some of these materials were included in a paper for the Tenth Annual Meeting of the Conference of Actuaries in Public Practice.

¹ The implications of atomic warfare will be excluded herein because they are presently beyond measurement.

Chart 1. Three Measures of Health Progress in the United States



Source: National Office of Vital Statistics.

hope for increasing the average length of life by reducing mortality among infants. Chart 1 shows the two mortality rates and the curve of the expectation of life at birth which is flattening out as it approaches 70 years.

Lesser Gains to be Expected

The record itself is emphatic:

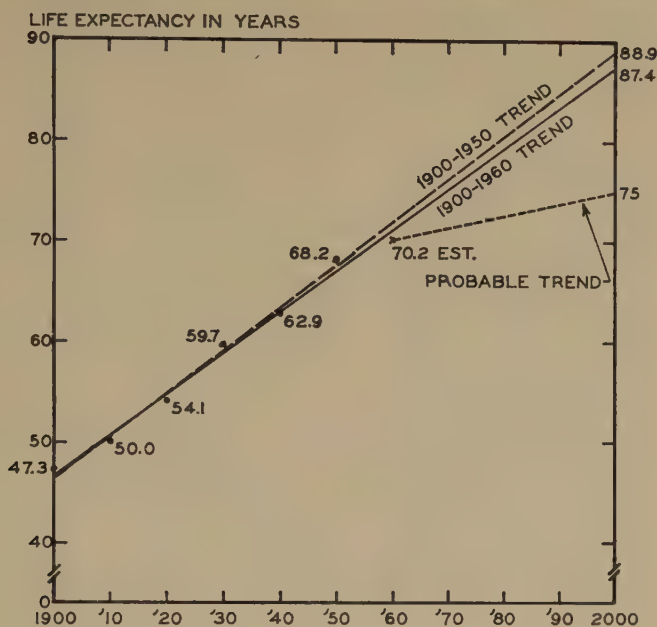
	<i>Expectation of life at birth (years)</i>	<i>Decade increases (years)</i>
1900.....	47.3	
1910.....	50.0	2.7
1920.....	54.1	4.1
1930.....	59.7	5.6
1940.....	62.9	3.2
1950.....	68.2	5.3*
1960 (est.).....	70.2	2.0

* This great gain was largely due to the

This is a gain of 20.9 years in half a century (1900-50) and is unquestionably the most definitive description of the progress attained. It does not seem unreasonable to expect that the gain during the 1960's, like that estimated for the 1950's, will also be under 2 years, with the total gain for the second half of the century probably not more than 7 years—to 75 years, certainly well under four score years. For some

antibiotics and warrants calling the 1940's "the decade of the antibiotics." This development interrupted the trend towards smaller decade gains in the length of life. In the best study presently available, T. N. E. Greville gives a mean estimate of 74.3 years for the year 2000 in his population projections (Actuarial Study No. 46, Social Security Administration).

Chart 2. Expectation of Life at Birth in the United States



nations, notably Norway, the figure is already well above 70 years. Considerable improvement in mortality can yet be attained in the United States among the nonwhite population, which comprises about one-tenth of the total population. Moreover, the present six-year advantage of females may be lessened by future reductions in mortality among males. But considering all of these factors together, it would seem that unless there is a major breakthrough in the understanding of cancer and heart diseases and their causes and cures, we can expect a gain of about 7 years for the second half of our century as compared with the gain of 21 years in length of life during the first half of our century. This prospective second-half gain of 7 years, since each year's gain will be harder and harder, will be

more than one-third as important as the 21-year gain. Indeed, history might regard these 7 years as almost on a par with the 21 years.

Extrapolated straight-line trends, excluding and including the author's estimate for 1960, for the year 2000 are 88.9 years and 87.4 years respectively. These two straight-line trends are presented in Chart 2 with the "probable trend" which indicates 75 years as the probable expectation of life at birth for the calendar year of 2000. The chart also indicates that the first half of the twentieth century was unique.

Why has this great measure of medical and social progress come almost to a standstill? After decades of substantial increase (except for the sharp decline during the influenza epidemic of World War I), why should this meas-

ure seem to waver as it approaches 70 years? Why should not the former pace of rapid increase be continued? What would be necessary to maintain that pace?

Expectation of Life Is an Average

Before attempting to answer these questions, it is necessary to state precisely what is meant by the term "expectation of life at birth." It is an average. In 1900, 1,000 babies selected at random from those born in the United States were expected to live a grand total of 47,300 years, an average of 47.3 years. In contrast, 1,000 babies selected at random among those born in 1960 will be expected to live a total of approximately 70,000 years (possibly 70,200 years), an average of 70.0 years; about 25 will die during the first year; some will live on to 80 and 90 and even 100 years of age. In order to achieve an average of 70 years, many more babies than at present must live well beyond 70. The word "expectation" in the term implies that these averages will be achieved provided the mortality rate at every age in the calendar year of their birth remains unchanged throughout their entire lifetimes. In other words, the term "expectation of life" assumes that the 1,000 babies chosen at random will climb the mortality curve prevailing in the year of their birth.

Of course, there has been a lengthening of life expectancy at all ages. The actual number of years the 1,000 babies born in 1900 will have lived — computed after the last survivor dies sometime in the next century — should certainly exceed 47.3 years by a dozen

years or more. We have no way of measuring accurately how long those born in a particular calendar year actually do live because of the prolonged record-keeping task. (Such actual averages, if published sometime during the twenty-first century, would have slight historical significance.) The clear implication of our plateau of three score years and ten is that those born in 1960 will actually exceed their (higher) expectation of life by much less than a dozen years; mortality rates at all ages generally throughout the balance of the twentieth and well into the next century are not expected to decline as rapidly as they have since 1900.

Confusing "the span of life" with the expectation of life at birth obscures the plateau of 70 years. The term "the span of life" apparently refers to the longest life ever lived by a human being; the name, sex, age at death, country, and century of this unique person are not known. He or she may have lived 150 years or more. But even if all the facts were known, "the span of life" would not afford a gauge for measuring the steady progress of the people of a nation toward longer life. That this one unique person lived 150 years does not promise that average length of life will reach 150 years. It is far better to use an average than a maximum in measuring this improvement.

Most of the great increase in length of life in this century has been due to the reductions in mortality among the young, especially among infants. Moreover, the saving of a life of an infant actually has more to do with the length

ening of average life than does the saving of a life of a person in middle age. The arithmetic here is a little tedious, but it must be stressed that the gains of recent decades cannot now be repeated from the same sources for the basic reason that infant mortality has already fallen to the extremely low level of 2.5 percent. Much the same situation exists for pre-school age children and young persons. Clearly, in our attempts to increase the length of life, our frontier lies above the age of, say, 45.

Long Climb to the Plateau

The extreme rapidity of the increase in the expectation of life at birth in earlier decades of this century may not become generally appreciated until long after the curve has flattened out at about 70 years. In the heyday of the Roman Empire, the upper-class Romans might have lived about a quarter of a century, on the average, despite the high percentage of deaths during infancy. A person of that era who lived a third of a century died old by the mortality standards of the times, though doubtless every large community in ancient times had a few men of 70. Apparently little progress was made during the Middle Ages. It was not until about 1700 that some evidence appeared that the average length of life was approaching a third of a century in favored sections of Western Europe—a gain of something like 8 years in more than 1,700 years. During the eighteenth and nineteenth centuries, there were slow improvements, with the expectation of life at birth in the United States rising to an estimated 47.3 years

in 1900. Then came great improvements in the prevention of contagious diseases, better food, better sanitation, better housing, and better medical care, producing this tremendous upward swing in the curve with a gain of 21 years in just half a century. This increase apparently equaled the gain of an untold number of previous centuries.

Ever More Years Wanted

Although the privilege of dying old is perhaps the greatest accomplishment of the twentieth century, this accomplishment may not give much comfort to those of us who have been fortunate to attain 50, 60, 70, or 80 years of age. A normal person is never ready for the start of his last illness or the occurrence of his final accident, although his desire to live may diminish as the end approaches. If normal man ever got enough of life, we could, figuratively speaking, rest on our laurels and be satisfied with the remarkable and unprecedented progress toward lower mortality and longer life achieved thus far in the twentieth century. Consider the fact that 92 percent of the babies born in the United States today are expected to survive to age 45. Why should not 92 percent survive to age 50, 60, or 70, thereby increasing expectation of life at birth by several years?

So the quest for longer life will continue, and the pressure on physicians and allied scientists to postpone death a little longer and still a little longer will continue. The great accomplishments in reducing mortality in this century will be accepted as fact, but whatever gratitude might be expected

may fade into resentment against the slowness of improvements in the second half of this century. The possible effects of slowing down the upward surge in this measure of average length of life, and in the mortality situation which it reflects, are numerous. Persons at different ages will have different views on the subject. Many will resent the slowing down; for example, there may be public outcries against the baneful shortage of physicians and in favor of vast public spending to flood the country with many more physicians and research programs. The fact that the gain of only two years during the decade of the 1950's took place during a decade of substantial medical progress may be forgotten.

We have become so accustomed to progress that it is difficult for us to realize that we are not approaching an age of Methuselahs. Surely this is not the time for scientific leaders to tantalize thoughtful laymen with the promise of a continuation of the upward trend at the rapid pace attained during recent decades. Rather the reasonable prospect is for very small gains with great difficulty in holding those already attained.

Conquest of the Older Causes?

The challenge is to reduce mortality from diseases of the heart and cancer, thereby increasing the expectation of life at age 45 above the present level of 29 years. This task will be patently more difficult, if for no other reason than the fact that the efforts of physicians and fellow scientists to reduce mortality above age 45 will be concentrated on older bodies, aged 50, 60, 70,

and 80. The prospects of small reductions in mortality are very bright. But reductions of the magnitude necessary to jump the expectation of life at birth from 70 years to 80 years before the century ends are presently beyond the realm of reasonable speculation. Too many of our standard group of 1,000 babies would have to live to be 90, 95, 100, 105, and so on.

During the past decades the great success in reducing infant mortality to the low level of 2.5 percent, as pointed out earlier, added greatly to the number of years in the grand total of years to be lived upon which these averages are based. Now, if we were, for example, to find a significant and important development in the field of cancer therapy, we would have to think of it as a means of extending life beyond 64 years, the present average age of death from cancer. The lives saved from cancer mortality, by some great and much-to-be-hoped-for discovery, would not continue a great many more years. Certainly, they would not live anything like as many additional years as those babies whose lives were saved by successive improvements in infant care during previous decades. If life is to remain finite, the gains that can come from the conquest of a disease where the average age at death is already high are very modest, if we know anything at all about human life. It is much more likely that these people saved from dying of cancer would live a few additional years, and add a few years to the totals from which expectation of life at birth is computed.

In the much larger field of diseases of the heart, we face substantially the

same prospects. There have been a number of minor breakthroughs during the 1950's but they have lengthened life very little. Preventing a tire from blowing out is not the same as preventing a tire from wearing out. Persons in the remainder of this century who are saved from death through improvements in prevention, diagnosis, and treatment of heart diseases can be expected to live a few additional years on the average. All this is based upon a consideration of the modest hopes of research people who are working with these two great causes of death.

A Major Breakthrough?

What would be the magnitude of a breakthrough and what would be its effect upon expectation of life at birth if we could find "complete cures" for most of the diseases of the heart and for cancer? Such a breakthrough defies the imagination. Such "complete cures" would leave no important older cause of death except ill-defined senility. Man would pass from being a finite being, as we have thought of him over the centuries and in all recorded history, and become some new kind of being.

But we know and hope that the quest for longer life will continue. We must expect more and more effort and more and more funds to be spent on research work in the fields of cancer and heart disease. As individuals, we can only hope that the research will be successful. Nevertheless, a prudent man today must look to three score years and ten, the Biblical age of man, as a plateau above which length of life will not increase very much during the coming

decades, unless some miraculous breakthrough is found which permits people to literally live on and on and on. When the accomplishments of this century in learning how to die old instead of dying young become more generally appreciated, it is likely that there will be more satisfaction with what has already been accomplished and less resentment at the slow upward movement in the curve of life during the coming decades. We should be patient with the future slow progress of scientific efforts to conquer the older causes of death, especially as that progress is reflected in small increases in the expected length of life of a newborn baby. We should realize the magnitude of the task that lies ahead.

Strange as it may seem, in the absence of a major breakthrough in the field of cancer and heart diseases we may, if the present high birth rate continues, approach a balanced age distribution of our population in a few decades. The present indications are that the proportion of adults 50 years of age and over will decline throughout the 1970's. If the high birth rate continues for another ten years, this decline should also continue into the 1990's. While our national effort is concentrated on better years rather than more years, atomic discoveries could mean both more and better years — or, God forbid, fewer years.

The Two Halves of the Century

The great difference between the first and second halves of the twentieth century in the lengthening of the average lifetime has great significance for students of population problems even

though the basic statistical assumptions underlying population forecasts include a slowing down of mortality gains during the balance of the century. Before one can grapple with the economic and other social implications of what is popularly called the "population explosion" or the "population bomb," the uniqueness and greatness of the first half of the twentieth century must be appreciated. In health progress, it is unlike any other half-century in human history. In the present discussion an attempt has been made to show that the second half of the century will be markedly different from the first half.

From one point of view, the true population explosion occurred during the first half of this century. The culprit, featured in current alarming, grim, and flaming terms, is called "death control" which, it is asserted, must be matched by population control or birth control. Greater understanding might be forthcoming if we could think of two explosions — the first, in death control which occurred in most Western nations during the first half of this century; the second, in the failure of birth rates to decline as fast as death rates, and the resulting explosive increase in population during the second half of this century.

Admittedly, rapid health progress and high birth rates are not unmixed blessings. Perhaps the greatest enemy of social progress is imbalance — in this case, lowered mortality rates and continued high birth rates. Moreover, the transplanting of death control techniques to Asia, Africa, and South America can create, and possibly has already created, more disturbances in their

economies than these scientific advances did in the United States. For those countries, death control is largely an import from more advanced nations. Although this is a period of seething turmoil, of the uprooting of old institutions, folkways, and mores in these underdeveloped countries, acceptance of the need for birth control cannot be expected instantly. But it does not seem unreasonable to hope that population control will be one of the new ideas which will come out of this period of turmoil.

The rate of population growth in the United States is very high. To some students of population problems, a jump from the present 180 million to 350 million by the end of the twentieth century does not seem inconsistent with the present rate of population growth. Quite apart from our capacity to feed these teeming millions is the prospect of a city 500 miles long from San Francisco to Los Angeles and a city 600 miles long from Boston to Washington.

It is suggested here that in thinking about the economic implications of death rates and birth rates during the balance of the twentieth century, economists can more clearly appraise these forces if they realize that the reasonable prospect for average length of life, measured from birth, during the second half of this century is for a gain of only 7 years — from 68 years to 75 years — as compared with the gain of 21 years during the first half of this century. Population forces are admittedly powerful in our economy; they are also very slow-moving. Splitting the twentieth century into two halves can promote a better understanding of the problem.

American Direct Investments in West German Manufacturing Industries, 1945 to 1959

EUGENE A. PHILIPPS

Assistant in Economics, University of Illinois

SINCE THE END of World War II the United States government and many private groups have vigorously promoted private foreign investment by American firms and citizens. The result has been that, despite the presence of severe world political tensions, more than \$30 billion has moved abroad since 1945. Of this \$30 billion in total long-term capital, approximately \$27 billion, or 90 percent of the total, has been invested in foreign manufacturing, mining, and trading enterprises. This direct investment, as it is called, affects the economies of the recipient nations in varying degrees. In the so-called underdeveloped nations where American direct investments are predominantly in the mineral and petroleum industries, the advantages and disadvantages to both the investor and the recipient nation stand out clearly and the economic effects of these investments are relatively easy to measure. It is in the "developed" nations of the world that the effects of American capital are less easily recognized, and consequently the available literature dealing with this subject is limited in

scope to purely aggregative measures of quantity, type, and location. Undoubtedly, more detailed information on the activities of American firms abroad is necessary both as a guide for American legislative policy and as an aid to the investor contemplating direct foreign investment.

This paper summarizes the results of a research project on the characteristics and effects of American direct investments in West Germany since 1945. The data were obtained through the use of a questionnaire and also by personal interviews with executives of firms having German manufacturing interests. The questionnaire was designed to provide specific information on the activities of a large segment of the population from which some valid conclusions could be drawn. The objective has been to determine as accurately as possible the effects of American subsidiaries and branches located in Germany on aggregate German output, employment, investment, and the balance of payments. No information was requested from respondents which in any way involved opinions regarding the desirability of

investing in Germany or the effects of German and American governmental policies on foreign investment.¹

Limits of the Study

There are presently about 550 American firms operating in West Germany, of which only 140 engage directly in manufacturing. These 140 firms constitute the population from which the survey was taken. They represent either outright ownership by an American parent firm or majority control of the German firm's capital (majority control is assumed to be 51 percent; however, in some cases it may be considerably less).

Approximately 10 percent of the respondents have facilities in West Berlin. The uniqueness of Berlin politically in no way affects the result of the study since, despite the unusual investment "climate" there, economic activity has not suffered as much as one might first suspect. Indeed, Berlin is as prosperous as West Germany itself, if not more

prosperous, and trade between the two areas is large and diversified. In general, American investors have shown no reluctance to invest in Berlin. Several firms have made Berlin their European headquarters. Therefore, the inclusion of Berlin investments in the study cannot be expected to impair the validity of conclusions regarding the whole of American investments in West Germany.

The construction of the survey introduces the possibility of non-response bias. Only the responding firms have been included in the tabulations, a factor which may result in an overly optimistic view of the situation since, generally, the more successful firms would be those most willing to cooperate. An investigation of data concerning the non-respondents has ruled out extreme distortion of the true picture as a serious weakness. For one thing, it was found that respondents have not been decidedly more successful than non-respondents in their German investments. Indeed, in several cases non-response was probably the result of a desire not to publicize very successful operations. Another reason for non-response is company policy which prohibits the release of any data on the firm's foreign operations. This obstacle is very noticeable among some groups of firms in the same industry and is evidenced by the low number of returns from these same groups.

Results of the Survey

The results of the survey are divided into the following parts: (1) tabulation of responses by industry and type of organization, (2) capitalization and

¹ Several excellent studies have been done in this area. The reader's attention is directed to the following works: U. S. Department of Commerce, *Factors Limiting U. S. Investments Abroad*, Parts I and II (Washington: Government Printing Office, 1954); U. S. Department of Commerce, Office of the Assistant Secretary for International Affairs, *Responses to Business Questionnaire Regarding Private Investment Abroad* (Washington: Government Printing Office, April, 1959); U. S. Department of State, *Expanding Private Investment for Free World Economic Growth* (Washington: Government Printing Office, April, 1959); and U. S. House of Representatives, Committee on Ways and Means, *Private Foreign Investment*, Hearings Before the Subcommittee on Foreign Trade Policy, 85th Cong., 2nd Sess. (Washington: Government Printing Office, 1958).

Table 1. Responses Classified by Industry and Form of Organization Employed

Industry	Number of firms receiving questionnaire (a)	Number of firms responding (b)				Percentage $\frac{(b)}{(a)}$
		Subsidiary	Branch	Proprietorship	Total	
Machinery and automobiles . . .	37	12	2	3	17	46
Petroleum and chemicals	33	9	1	2	12	36
Light metal fabrication	18	3	1	0	4	22
Electrical	16	6	0	0	6	38
Food and beverages	16	4	0	2	6	38
Scientific and photographic instruments	12	7	1	3	11	92
Total	132	41	5	10	56	42

finance, (3) motives for investment, (4) returns on American investments, and (5) effects on the German economy.

Responses

Questionnaires were mailed to 140 qualified firms taken from an official Department of Commerce list.² Eight of the questionnaires were returned either because the firms have liquidated their German assets or because the firms never had German assets. Of the 132 American firms receiving questionnaires, 56, or approximately 42 percent, responded. Of these respondents, 23 had established themselves in Germany prior to World War II; 33 were established after World War II. Fourteen of the 23 prewar firms reported more than 50 percent damage to their assets as a result of war action, yet all of these firms returned to the German scene after the war. The breakdown of re-

sponses by industry and corporate organization is given in Table 1.

Growth of American Investments

The first object of the study is to determine the total capital represented by the 56 responding firms in relation to the total of all American petroleum and manufacturing enterprises in Germany. This figure is about \$185 million, or approximately 39 percent of the value given in Department of Commerce data for 1958 (\$479 million).³ The closeness of this percentage to the percentage of total firms covered in the survey (42 percent) suggests that with respect to total capital the firms covered in the survey are highly representative of the population.

The book values of assets differ markedly from the market values. The former are usually used when foreign investments are discussed, but since assets frequently appreciate in value when firms have been successful, the

² U. S. Department of Commerce, *American Firms, Subsidiaries, and Affiliates: Federal Republic of Germany and West Berlin*, unpublished list (Washington: Office of Economic Affairs, July, 1958).

³ Samuel Pizer and Frederick B. Cutler, "Growth of Foreign Investments in U. S. and Abroad," *Survey of Current Business*, August, 1959, pp. 30-31.

Table 2. Book Value of American Direct Investments in West Germany, 1950 to 1958
(Millions of United States dollars)

Industry	1950	1951	1952	1953	1954	1955	1956	1957 ^p	1958 ^p
Manufacturing..	121.0	n.a.	n.a.	155.0	167.0	191.0	239.0	268.0	315.0
Petroleum.....	37.8	n.a.	n.a.	67.0	69.0	74.0	111.0	151.0	164.0
Other.....	45.2	n.a.	n.a.	54.0	57.0	67.0	79.0	77.0	95.0
Total.....	204.0	234.0	251.0	276.0	293.0	332.0	429.0	496.0	574.0
Earnings as a percentage of book values ^a	13.2	9.0	7.9	8.3	9.2	11.4	12.4	12.3	14.8

^a Percentages are author's.

^p Preliminary.

n.a. Not available.

Source: Adapted from a series of articles by Samuel Pizer and Frederick Cutler, "Growth of Foreign Investments in the United States and Abroad," *Survey of Current Business*, various issues, 1951 to 1959.

market values constitute a much more significant measure of the current values of assets. In Germany, where the disruption caused by many years of war and the currency reform of 1948 have seriously distorted capital values, book values of assets are less representative than they might be in other countries. The situation is further complicated by the fact that the Asset Revaluation Act of 1949⁴ allowed firms to revalue assets at their prewar values although in many cases the true values of assets were but a small fraction of the legal book values because of war damage or confiscation. The net effect of this act was to allow German firms to depreciate "paper" assets and thereby gain tax relief which was otherwise unobtainable under the existing tax laws of the Allied High Commission.

On the assumption that market values far exceed the published book

values, respondents were requested to indicate the approximate percentages by which the market values of their German assets exceed the book values. There appears to be a high correlation between the age of the firm (in Germany) and the degree to which market values exceed book values. In general, the newer firms tend to regard the two values as almost identical, whereas the older firms indicate the greatest divergence between the two values. By the calculation of an average, weighted percentage of the differences of the two values, a rough approximation of the market value of total American manufacturing facilities is obtained. The average for the 56 firms covered in the survey is 55 percent which, if applied to the firms' assets, produces a market value of \$286.75 million (155 percent of \$185 million), and if applied to the value of all American manufacturing facilities, produces a market value of \$742.45 million (155 percent of \$479 million).

⁴ See Robert G. Wertheimer, "Tax Incentives in Germany," *National Tax Journal*, Vol. 10, No. 4 (December, 1957), pp. 328-38.

Table 3. Net Additions to Facilities Since 1945 as Reported by 56 Respondents

Industry	No increase	Less than 50%	50% to 99.9%	100% to 199.9%	200% or more	Total
Machinery and automobiles..	3	5	5	2	2	17
Petroleum and chemicals....	1	3	5	2	1	12
Scientific and photographic instruments.....	1	1	2	2	5	11
Electrical.....	0	1	2	2	1	6
Food and beverages.....	1	2	0	2	1	6
Light metal fabrication.....	0	1	1	1	1	4
Total.....	6	13	15	11	11	56

Growth of Firms

The growth rate of American firms in West Germany has kept pace with over-all economic growth of the country. Between 1950 (the year in which Germany was officially opened to new foreign investments) and 1958, the book value of manufacturing and petroleum facilities owned or controlled by American interests increased from \$159 million to \$479 million, an increase of \$320 million, of which approximately 55 percent consisted of reinvested earnings. About \$195 million of this increase was in manufacturing and \$136 million in petroleum (see Table 2).

The firms included in the survey indicated the net additions made to their facilities since the firms were first established in West Germany. Thirty-seven of the 56 respondents indicated additions in excess of 50 percent of the original investment, and 22 of these were in excess of 100 percent. Only six firms reported no additions; however, of these six, five were established after 1955 and hence have not had sufficient time in which to appraise the desirability of expansion. The greatest growth has been in petroleum where American firms have increased their

investments by \$250 million. Most of this increase has been in refinery capacity, an area in which Americans now control about 52 percent of Germany's total. Two large American automobile manufacturers have invested more than \$150 million since 1945. The apparent discrepancy between the Department of Commerce data and the figures given for petroleum and automobile investments (the latter data were obtained from reliable industry sources) is typical of the way in which assets have been understated. The data on expansion are summarized in Table 3.

Generally, American capital has not been attracted to the steel, coal, or mining industries. The reasons for this lack of interest are (1) the ever-present danger of nationalization in the steel and coal industries, (2) the trend toward concentration and cartelization in these industries along prewar lines (particularly in steel), (3) the policy of *mitbestimmung* (codetermination) strongly prevailing in coal and steel at the present time, and (4) extremely high costs and poor markets in the extractive industries.

To the best of the author's knowledge, only two American firms have

ventured into German steel. These are the Reynolds Company which formed a manufacturing and sales subsidiary with the Erbsloch firm of Wuppertal,⁵ and Armco which participates with Thyssen (one of Germany's steel giants) in one of Western Europe's most modern steel complexes.⁶ The only substantial American interests in coal were returned to German hands when the Hugo Stinnes Corporation of New York, holding company for countless coal, steel, and transportation enterprises, was recently sold outright to the Deutsche Bank of Frankfurt am Main for \$20 million.

Financing Companies' Growth

Throughout the postwar period German industry has been hampered by the absence of an organized capital market. The prospects for extremely high returns in almost all industries coupled with this capital shortage resulted in a pattern of very high interest rates. Despite the shortage of funds available and high interest rates, German industry expanded considerably. The primary sources of capital were depreciation allowances and retained earnings. It has been suggested that as much as 81 percent of total German private investment has been financed in this manner.⁷ Between 1948 and 1958 only about 34 billion Deutsche marks (about \$8 billion) in private

securities were placed.⁸ This is hardly an impressive total for a nation which, during the same period, succeeded in raising the gross national product from DM 60 billion to DM 215 billion. In contrast to the value of securities placed, over DM 300 billion in short-, medium-, and long-term loans were made by banks to businesses and other private customers during the same period.⁹ The chief cause of the imbalance in the capital market was a desire on the part of borrowers to keep their lendings on a short-term basis, particularly since it was felt by many that a reduction in interest rates was imminent because of large deposit-creating balance-of-payments surpluses.

American firms responding to the survey were asked to indicate the sources of the capital used in their expansion. In general, the only variance from the pattern followed by domestic German firms was in the use of the surpluses of the American parent firms or holding companies of American firms located in other countries.¹⁰ Re-

⁸ *Monthly Report of the Bank deutscher Länder*, January, 1959, p. 18.

⁹ *Ibid.*, p. 76-77.

¹⁰ It should be pointed out that American firms have not been free to "pump dollars" into Germany to finance their investments. New investments, officially allowed subsequent to May, 1951, were limited in amount to the total of so-called "investment marks" available. The supply of these "investment marks" depended on the amount of foreign investment liquidated within Germany. The proceeds of such liquidations were credited to nontransferable accounts called "special investment accounts for foreigners" and could only be sold to another nonresident desiring to invest in Germany. By this method it was possible to limit the amount of new investment to the amount of liquidated investments. The use of these ac-

⁵ *Exporters Digest and International Trade Review*, January, 1958, p. 24.

⁶ *Ibid.*, February, 1959, p. 18.

⁷ James C. Zeder, "Reasons for West Germany's Remarkable Economic Growth," *Commercial and Financial Chronicle*, Vol. 187, No. 5748 (June 5, 1958), p. 15.

tained earnings of the German firm received 38 mentions; surplus of the American parent firm received 20 mentions; borrowings from German banks received 7; and only 2 firms mentioned the placement of new security issues in Germany. The responses to this question indicate that, with one exception (the widespread use of parent's surpluses), American subsidiaries and branches in Germany have adhered very closely to the general pattern of financing characteristic of German firms, that is, a reliance on the use of retained earnings and bank loans.

Some question has been raised by students of the German economy as to the desirability of using primarily retained earnings for investment. The arguments usually center on the high earnings in export industries which led to overexpansion in this area at the expense of the "basic" industries (coal and steel), the latter having been forced to rely heavily on government loans. In the words of two observers:

... German investment capital flows predominantly into corporations oriented toward exports, while basic internal industries are suffering from an acute capital shortage.¹¹

... Permitting considerable earnings in times of full employment will only produce

counts was discontinued in 1958 and at present almost all capital transactions between residents and nonresidents are free. See U. S. Department of Commerce, World Trade Information Service, *Investments Under the Revised Regulations of the Federal Republic of Germany*, December, 1958, p. 1, and also "Transfer of Capital Freed by Germany," *Foreign Commerce Weekly*, Vol. 61, No. 8 (February 23, 1959), p. 13.

¹¹ *Germany Today*, Vol. 2, No. 3 (1957), p. 12.

the danger of wrong investments such as have occurred, by no means rarely, in the period between 1948 and 1957.¹²

The conditions under which industry operated up to 1958 have changed considerably. At the present time savings are rising, interest rates have been brought into line with Germany's growing role as an important international lender, and the issuance of new securities has increased at a rapid rate. These new conditions have aided the growth of an organized capital market in Germany.

Motives for Investment

Much attention has been drawn recently to the fact that American manufacturers have been losing their markets, both foreign and domestic, to foreign producers. High labor costs in the United States relative to those in corresponding industries abroad have been cited as the chief cause for the trend toward more foreign manufacturing by American firms and the consequent export of employment.¹³ While this claim may be justified where labor costs constitute the major portion of total cost, the force of this argument is weakened in the case of foreign investment in industries where the proportion of labor required is small relative to the amount of capital employed.

In Germany, where capital costs have been high relative to labor costs in the

¹² "From A Banker," *Wirtschaftsdienst*, English ed., Vol. 38, No. 8 (August, 1958), p. 7.

¹³ For an interesting discussion of low foreign labor costs as a factor in attracting foreign investment, see Irving B. Kravis, "The Cheap Labor Myth," *Challenge*, Vol. 7, No. 10 (July, 1959), pp. 46-50.

postwar period, one would expect that primarily "labor intensive" industries would be subject to lower unit costs (assuming of course that labor could be freely and profitably substituted for capital in all industries). However, most of the firms included in the survey are relatively "capital intensive." The 56 respondents represent a total book value of approximately DM 777 million (\$185 million) and employ about 60,000 production workers. The labor-capital ratio for these firms is 1:DM 13,000 based on the book values; and if the market values are used, this ratio climbs to about 1:DM 20,000. Either of these ratios is well above the average for German industry, a circumstance indicating that "cheap labor" might well be overstated as an incentive for American firms to invest in Germany.

The majority of respondents (44) indicated that a growing demand for their product in Western Europe was the major factor influencing their decisions to invest in Germany. Only twelve mentioned restrictions on imports of their products into Europe and nine mentioned lower production costs in Germany relative to other West European countries.¹⁴ Evidence in this particular instance is clearly against the primary importance of lower German labor costs relative to those in the United States or other West European

countries as an investment incentive. More support is given to the argument that the desire to service a potentially large market (in this case the European Common Market) at the point of greatest foreign competition (in the foreign market itself) is a dominant factor.

Earnings on Investments

Based on Department of Commerce data,¹⁵ net earnings of American petroleum and manufacturing industries (based on the reported book values after payment of German taxes but before payment of American taxes) averaged 7.5 percent and 10.3 percent respectively between 1950 and 1958. The average for all American investments in Germany for the same period is 11.9 percent. Earnings in Germany have generally been higher than those in France, Italy, and the Netherlands, but have been less than those in the United Kingdom and Belgium.¹⁶

Respondents were asked to designate how returns on their German investments compared with returns on similar ventures in the United States. Table 4 summarizes the distribution of responses to this question.

There is a high degree of correlation between firms established in Germany within the last five years and responses indicating "less than in the United States" or "too early to tell." On the

¹⁴ In a recent appearance before a Special Subcommittee of the U. S. House of Representatives, Ira T. Wender, noted expert on foreign investment, made the following statement: "I would say that over 90 per cent of the investments made by manufacturing firms are made to maintain a market." See *Private Foreign Investment*, *op. cit.*, p. 223.

¹⁵ Samuel Pizer and Frederick B. Cutler, *op. cit.*, pp. 25-32. Percentages are author's.

¹⁶ On the basis of average earnings as reported by Pizer and Cutler in *Survey of Current Business*, various issues 1951 to 1959, earnings ratios for other European countries are as follows: United Kingdom, 17.2; Belgium, 13.5; Germany, 11.9; Italy, 10.7; Netherlands, 10.3; and France, 10.1.

Table 4. Earnings on German Investments Compared with Earnings on Similar Ventures in the United States

Industry	Too early to tell	Less than in the US	About the same as in the US	Slightly higher than in the US	Much higher than in the US	Total
Machinery and automobiles...	2	7	2	3	3	17
Petroleum and chemicals....	0	5	2	4	1	12
Scientific and photographic instruments.....	0	1	5	3	2	11
Electrical.....	1	2	2	1	0	6
Food and beverages.....	0	1	1	2	2	6
Light metal fabrication.....	0	0	0	1	3	4
Total.....	3	16	12	14	11	56

other hand, most of the "much higher than in the United States" responses are from firms established in Germany prior to World War II.

Contribution to the German Economy

The contribution made by American industry located in Germany to the domestic economy may be discussed under three major headings: (1) the effect on gross national product, (2) employment provided, and (3) the net contribution to Germany's foreign exchange earnings.

Effect on Gross National Product

From annual sales figures of about thirty American firms operating in West Germany, a rough approximation of the total contribution of all American petroleum and manufacturing industries operating there has been obtained. This figure (excluding trade and other service industries) is about \$2.175 billion. It is broken down as follows: machinery and machine tools, \$600 million; petroleum and chemical products, \$600 million; automobiles and parts, \$500 million; electrical products, \$275 mil-

lion; food and beverages, \$150 million; and others, \$50 million. The estimated gross product of American service industries in Germany is \$525 million. The grand total for all American produced goods and services is approximately \$2.7 billion a year, or about 5 percent of Germany's gross national product in 1958.

Employment Provided

American manufacturing firms in Germany employ approximately 150,000 German production workers. The same group of firms also employs some 75,000 nonproduction workers, that is, administrative and marketing personnel. The American service industries in Germany employ about 200,000 German personnel. These three components total 425,000 German employees, or approximately 2.2 percent of the total West German labor force.¹⁷ On the basis of an average German weekly wage of \$30.00, American firms pay about \$663 million each year to their German employees.

¹⁷ Germany's labor force currently numbers approximately 19 million.

Table 5. Destinations of Outputs of American Firms Operating in West Germany
(Weighted averages)

Industry	Firms respond- ing	West Germany	Other Europe	United States	Rest of world	Total
		Percentages				
Machinery and automobiles.....	17	67	21	1	11	100
Petroleum and chemicals.....	12	83	15	.. ^a	2	100
Scientific and photographic instruments.....	11	46	28	15	11	100
Food and beverages.....	6	91	6	.. ^a	3	100
Electrical.....	5	72	15	.. ^a	13	100
Light metal fabrication.....	4	72	10	.. ^a	18	100
Weighted average.....	55	70	18	3	9	100

^a Less than 1.0 percent.

NOTE: Percentages were weighted within each industry and then weighted on the basis of each industry's percentage of total net worth represented.

Contribution to Foreign Exchange Earnings

American firms in Germany depend to some extent on foreign (non-German) sources of supply for raw materials and equipment. Imports generated by these firms represent a burden on Germany's foreign exchange position. On the other hand, these same American firms also export considerable quantities of finished goods. The exports represent additional foreign exchange earnings for Germany. The problem is to determine whether American firms produce a net contribution to Germany's foreign exchange position by their presence in Germany. To accomplish this task it is necessary to know (1) what percentage of total output American firms in Germany export to various areas of the world, and (2) what percentage of total requirements of raw materials and equipment of American firms in Germany must be imported and the areas from which such goods are imported.

Respondents were asked to designate the percentages of required raw materials and equipment imported from each of four areas and the percentages of total output exported to the same four areas. The respective percentages were then weighted on the basis of the firms' net worth (specific sales figures were unavailable) and totaled. Data on exports and imports to and from the four areas were then compared to determine what, if any, net contribution American firms have made to Germany's foreign exchange position. The calculations are summarized in Tables 5, 6, and 7.

The data in Table 5 indicate that the 55 firms represented export 30 percent of their output and that 70 percent is sold within Germany. Only the scientific and photographic instruments industry exports more than 50 percent of its output. If this distribution between exports and domestic sales is assumed to hold for all American manufacturing industries in Germany

**Table 6. Sources of Raw Materials and Equipment
of American Firms Operating in West Germany**

(Weighted averages)

Industry	Firms respond- ing	West Germany		Other Europe		United States		Rest of world		Total
		Raw ma- terials	Equip- ment	Raw ma- terials	Equip- ment	Raw ma- terials	Equip- ment	Raw ma- terials	Equip- ment	
		Percentages								
Machinery and automobiles.	16	84	91	2	5	10	4	4	0	100
Electrical.	5	77	91	6	4	17	5	0	0	100
Petroleum and chemicals.	11	62	85	10	1	18	14	10	0	100
Scientific and photographic instruments.	10	89	92	7	6	3	1	1	1	100
Light metal fabrication.	4	99	87	0	6	0	7	1	0	100
Food and beverages.	5	66	92	2	4	0	4	32	0	100
Weighted averages..	51	78	90	5	4	9	6	8	.. ^a	100
Raw materials and equipment average ^b		81		4.75		8.0		6.25		100

^a Less than 0.25 percent.

^b Weighted arithmetic means of raw materials and equipment percentages. Weights used are raw materials, 75 percent; equipment, 25 percent.

(about 132 firms), then approximately \$650 million in foreign exchange is generated each year by their export sales. This represents 7 percent of total German exports (based on 1958 export data).¹⁸

The import data in Table 6 reveal that most of the required raw materials and equipment are obtained in German markets. The averages for each area have been weighted and averaged on the basis of estimated proportions between raw materials and equipment. It is implied that raw materials con-

stitute three times the value of equipment.

Before the data in Tables 5 and 6 are compared to determine the net contribution of American firms to Germany's foreign exchange earnings, an adjustment is required. Since import and export percentages refer to wholly different absolute dollar totals, either export percentages must be inflated to include the value added in production or import percentages must be deflated to reflect the fact that input costs are less than selling costs of final goods, the differential consisting, of course, of value added in production and some profit margin. The adjustment has been made in the import data on the as-

¹⁸ German exports in 1958 were \$9.4 billion. See International Monetary Fund, *International Financial Statistics*, Vol. 12, No. 2 (February, 1959), p. 22.

Table 7. Net Addition to German Foreign Exchange Earnings Made by American Firms
(Expressed as percentages)

	Other Europe	United States	Rest of world	Total
Weighted average of exports generated to each area as a percentage of total output.	18.0	3.0	9.0	30.0
Weighted average of imports from each area as a percentage of total inputs.	4.75	8.0	6.25	19.0
Adjusted import percentages ^a	3.56	6.0	4.69	14.25
Net contribution to German foreign exchange earnings as a percentage of total output ^b . .	+14.44	-3.0	+4.31	+15.75

^a Import percentages adjusted to 75 percent of total.

^b Export percentages less adjusted import percentages.

sumption that the dollar value of inputs constitutes approximately 75 percent of the dollar value of the final products, or put another way, that materials and capital equipment costs are 75 percent of selling price (assuming that returns are to scale and ignoring labor costs and markup percentages). The adjustment is unrealistically high but determined so as to avoid the possibility of undue overstatement of the net contribution. Import and export adjusted percentages are summarized in Table 7.

The summarization of export and import percentages in Table 7 reveals that (1) the net contribution of American firms has been positive to the extent of 15.75 percent of total output of the same firms; (2) 14.44 percent of the total contribution has been generated by trade with other European countries; and (3) trade with the United States has resulted in a negative figure (-3.0 percent), indicating that American firms have not contributed to Germany's dollar earnings but have helped deplete dollar reserves. The dollar value of American firms' balance of trade (exports less imports)

may be found by taking 15.75 percent of the value of total output (\$2.175 billion). The result gives a net dollar contribution of \$342.5 million, or about 20 percent of West Germany's total balance of trade (exports less imports) for 1958.¹⁹

At this point the reader should be warned against accepting these data as constituting a perfectly accurate measurement of American firms' contribution to Germany's foreign exchange position. The first criticism should be directed to the value of American firms' total output (\$2.175 billion). The components of this total were collected from many sources, some of which may be unreliable. However, sales data on most of the larger firms have been, where possible, drawn from the annual reports of these firms. Several of the percentages used in weighting the data have, admittedly, been derived in a rather arbitrary manner and the sole responsibility for their selection lies with the judgment of the author. Despite these shortcomings, it

¹⁹ *Ibid.*, pp. 22-23.

is not likely that any extremely large errors are hidden within the data since the information on the 56 firms in the survey is reasonably accurate. It may be concluded, therefore, that within the framework of what is known about 42 percent of the population, the effects of American firms on Germany's foreign exchange position has been favorable.

The Future

Future successes of American firms in West Germany depend heavily on the economic changes that will be effected by the European Economic Community and changes in the condition of the German "investment climate."

The European Economic Community²⁰

The long-range economic goals of the six-nation European Economic Community (EEC) are, briefly, to eliminate restrictions on the free flow of goods, capital, labor, and technology between member nations, and to adjust external tariffs (against the outside world) to a common basis.²¹ Internal tariffs, those prevailing between members, will eventually be reduced to zero. Since Germany now has one of the lowest internal tariff structures, the economic impact of tariff elimination will be less than in other nations having initially higher internal tariffs than Germany (such as France and Italy). The question of which countries will suffer most

from internal reductions hinges to a large extent on the elasticities of demand and supply in each of the member nations with respect to the elasticities in each of the other member nations. The subject of tariff reductions is exceedingly complex. The interaction of elasticities and the effects of higher factor demand lead to even broader problems which, unfortunately, are far beyond the scope of this paper.

The implications of tariff adjustments by "the six" for American exporters are tremendous. The initial effect will almost certainly be a reduction in total United States exports to these nations. Demand for many products will be diverted from the United States toward other Common Market countries. Unless American producers enjoy a monopoly for their products in the Common Market or unless these producers can lower their selling prices to Europeans, exports can be expected to decline. The impact of export losses will fall unevenly on American exporters. Some producers may be driven from the market; others may be forced to cut production or seek other export markets. The most popular alternative thus far has been the establishment of subsidiaries or branches or the conclusion of licensing agreements with firms already located in the Common Market. Larger American firms tend to establish their own manufacturing facilities or to enter joint agreements with European firms, and smaller American firms tend to prefer the straight licensing agreement. For firms unable to gain a foothold in Europe there still exists the long-range possibility that the United States government may conclude re-

²⁰ The six nations making up the EEC are Germany, France, Italy, Netherlands, Belgium, and Luxembourg.

²¹ For a complete explanation of the goals of the Rome Agreement see American Management Association, *The European Common Market* (New York: 1958).

ciprocal trade agreements with the European Economic Community instead of following the traditional practice of concluding such agreements with individual nations.

For firms fortunate enough to get inside the Common Market the outlook is exceptionally good. With the removal of barriers to the free flow of capital, labor, and goods, there will be a tendency for interest rates, wage rates, and the prices of goods to move toward some common level. With restrictions removed it will be possible for manufacturers to decentralize their operations. Component parts of a product could be produced in areas or countries where economic conditions would be most favorable for their production.²² In short, this involves an expansion of the "regional specialization" approach to manufacturing, which would ignore national boundaries, as opposed to the "national specialization" concept. In the past, the "regional" approach has frequently been limited by national boundaries when specialization would otherwise have developed along the most economic lines.

²² Consider the method employed by International Business Machines to circumvent the European tariff problem. IBM manufactures components of one of its chief products in eight different countries. Each of the plants located in the various countries produces enough of its special component for the total eight-country market and exports the rest to the other seven plants. The final product is then assembled by each of the eight plants with the components received from the other seven. "While this approach may be more costly in some ways, the total production costs for all eight countries is probably lower." See Charles E. Silberman and Lawrence A. Mayer, "The Migration of U. S. Capital," *Fortune*, Vol. 57, No. 1 (January, 1958), p. 225.

The German Investment Climate

Throughout the postwar period the German economy has grown at a remarkable rate. The export sector has been particularly strong, giving rise to very large foreign exchange reserves. The existence of dollar and gold reserves has made it possible for the German authorities to free transfers of earnings and capital to the United States. In addition, German taxes have not been excessive (the present rate is 51 percent). The general health of the economy, a strong external position, and a well-defined, non-discriminatory tax policy have created a very attractive economic environment in which to invest.

German policy toward foreign investors may at best be defined as vague, if not indifferent. In general, American firms receive the same privileges and have the same obligations as domestic firms. Once established, American firms appear to receive courteous treatment by authorities. New firms, those contemplating the construction of wholly owned subsidiaries or branches, have on occasion been shown some hostility. This hostility stems more from pressure by German industrialists on government officials than from the officials themselves. Investment in areas where German technology is weak is usually preferred, and such investments are felt to be more desirable when German firms participate. The giant American subsidiary, backed by the parent's reserves, represents a potential threat to domestic control of any particular industry in Germany. For this reason a strong dislike has developed for investments likely to produce *über-*

fremdung (literally, "overforeignization"). The welcome shown American firms shows no sign of warming. In the words of four leading observers of German developments:

In Germany where there is some fear of domination by American capital, licensing will be the preferred method of U. S. participation, since it will leave German industry stronger without diluting its equity.²³

Thus it appears that France has joined the Benelux countries in the race to attract investment by United States free entry into branches or subsidiaries; . . . Italy also has the welcome flag out; and of the six EEC countries only West Germany seems a bit lukewarm.²⁴

The government of the Federal Republic is making no attempt to attract American or other foreign capital into the Federal Republic.²⁵

German officials will deny it but they aren't laying out the red carpet.²⁶

Conclusions

On the basis of information obtained from approximately 42 percent of all American petroleum and manufacturing interests in West Germany, it may be concluded that these firms are well-integrated with the general pattern of growth, financing, and orientation prevalent in postwar Germany. In several other respects, however, American investment has been unique. Among the

distinguishing characteristics are the following: (1) American capital has been attracted primarily to the petroleum and heavily capitalized manufacturing industries. (2) Low labor costs probably do not represent the major investment incentive, a contention supported by the observation that only 12 percent of the respondents to the survey mentioned low labor costs as a factor. The majority of respondents (61 percent) mentioned the advantages of manufacturing in close proximity to the foreign markets. (3) Earnings on American investments in Germany have been higher than the average for American investments in all European countries, and, as evidenced by the survey, about 66 percent of reporting firms have earned returns equal to or in excess of returns on similar ventures in the United States.

The contribution of American-owned firms to the German economy has been far in excess of what the total book value of these firms might suggest. A good estimate puts the contribution of American firms to Germany's GNP at approximately \$2.7 billion per year (5 percent of total GNP in 1958). It is also estimated that American firms have over 400,000 German employees (2 percent of the German labor force in 1958) and that these firms pay \$663 million yearly in wages. In the area of foreign trade the contribution of American firms to Germany's foreign exchange earnings has been sizable and positive. In view of the statistics presented here it may generally be said that in the postwar period both the investor and the host country have benefited from the presence of American firms in Germany.

²³ Emile Benoit, "Profit Prospects for U. S. Business in the European Common Market," *Export Trade*, November 24, 1958, p. 21.

²⁴ "France Making Strong Bid As EEC Location for U. S. Industry," *Export Trade*, June 1, 1959, p. 64.

²⁵ Donald B. Calder, "American Business in Germany," *International Markets*, Vol. 10, No. 10 (October, 1956), p. 28.

²⁶ U. S. Firms Cash in on West Germany's Boom," *Business Week*, July 27, 1957, p. 106.

Despite past successes, the future holds little promise that a favorable "climate" will continue to lure American capital. The German dislike for "overforeignization" may result in legislation designed to regulate foreign investments. Although the danger of such legislation is slight at present, a new administration, one inclined perhaps to be more nationalistic, may succumb to pressures from German industrialist groups. The consequences of possible regulatory action would, at most, limit the participation of American business in German firms to partnerships or joint ventures in which American interests provide technology and product innovations and German interests provide the major part of required capital (sufficient to maintain control of the enterprise).

With few exceptions, American firms must be prepared to enter manufacturing in Germany in one of two ways: (1) They may "buy into" existing German firms where large capital outlays are necessary to produce at competitive prices. (2) Particularly in the case of small firms with unique processes or products which are unable to command funds for large-scale manufacturing, they will find licensing agreements and/or joint ventures preferable to complete ownership.

There has been in the past decade a trend toward industrial balance among the members of the EEC which should result in more intense competition for markets, both European and foreign. As a consequence, American firms will face a challenge of considerable magnitude.

For More Adequate Measurement of Unemployment: A Comment

JOHN B. PARRISH

Professor of Economics, University of Illinois

AND OTHERS*

IN AN ARTICLE, "For More Adequate Measurement of Unemployment," in the November, 1959, *Current Economic Comment*, Philip Eden, economist, International Longshoremen's and Warehousemen's Union, argues that the nation's official unemployment estimates as published by the United States Bureau of the Census are "too low."¹ "More adequate" measurement would have raised unemployment estimates by as much as 40 percent in some months of the 1957-58 recession. If true, this

* This paper was prepared in the graduate seminar, Economics-LIR 444, "The Labor Market." Members contributing were Neil Collins, Adolph Mark, Louis Rittschof, and Karl Sauber.

¹ *Monthly Report on the Labor Force* was published monthly from 1940 until July, 1959, by the Bureau of the Census, U. S. Department of Commerce. On that date responsibility for its publication was transferred to the Bureau of Labor Statistics, U. S. Department of Labor. The word Census is used in this paper instead of BLS to maintain consistency with Mr. Eden's presentation. Currently labor force statistics are still compiled by Census under contract with BLS. The data are included in the BLS monthly report, *Employment and Earnings*.

is indeed underestimation of considerable magnitude. This paper will examine the reasonableness and implications of Mr. Eden's methodology.

In joining the "too low" school, Mr. Eden adds two other groups of unemployed to the published Census figures.²

² "Correcting" census unemployment estimates is not a new activity. Russ Nixon and Bruce Waybur of the United Electrical, Radio and Machine Workers of America in a mimeographed report entitled *National Unemployment Estimates* (Washington: the Union, 1949), adjusted Census monthly estimates for 1949 upward by as much as 35 percent or roughly the "correction" of Mr. Eden. They did so by (1) shifting persons on temporary layoff and waiting to start new jobs from the Census classification "employed" to the "unemployed," (2) estimating that about 15 percent of persons working part time (less than 15 hours a week) should be classified as unemployed, and (3) shifting workers in the "fringe" areas of employment to unemployed status. See also Russ Nixon, "Correction of Census Bureau Estimates of Unemployment," *Review of Economics and Statistics*, Vol. 32, No. 1 (February, 1950), pp. 50-55. This same approach was presented again in 1954 in greater detail by the United Electrical Workers. See U. S. Congress, Joint Committee on the Economic Report, *January*

One group consists of the "hidden" unemployed. The "hidden" unemployed in a recession period are those who were in the labor force earlier in good times but who in recession are classified by the Census as outside the labor force because they neither have jobs nor look for jobs. Why don't they look? Mr. Eden says it is because they are discouraged. The job search is not worthwhile. They "know" there are no jobs for them—so why look? Their withdrawal from the labor force is more apparent than real. It is involuntary. Their desire and need for work is "hidden." Therefore we should estimate the number of these "hidden" people and add them to those persons who are also out of work but who continue to actively seek employment.

The second ILWU addition to Census unemployment figures involves the involuntarily underemployed. If two persons are involuntarily working only 20 hours each per week (instead of 40 hours each) they would both be classified as employed (part time). This, says ILWU, is a kind of labor market schizophrenia. They are half employed

and half unemployed. Actually both are underemployed, and the amount of this underemployment should be measured. In this case the two workers, each involuntarily underemployed by 20 hours a week, should be considered the equivalent of one fully employed and one fully unemployed person. The latter should be added to the regular Census count of unemployed with no hours of work per week.

On the surface both of the above adjustments seem plausible enough. Yet their conceptual basis and their specific application to the 1957-58 recession raise some very serious questions. We shall consider the two adjustments in turn.

"Hidden" Unemployment

The ILWU adjustment for "hidden" unemployment is built upon two value judgments. One is an assumption that the labor force is inelastic in the short run so that any decline in labor force size from a "norm" may be said to represent workers who really want and need jobs but who have temporarily "hidden" themselves away from active job-seeking because they are convinced there are no jobs to be found. The second judgment is that 1956 is an appropriate year for determining the proportion of the population "normally" in the labor force under conditions of high-level employment.

Is the assumption of labor force inflexibility a reasonable one? In the long run the answer appears to be a qualified "yes." Since projections are based on demographic factors and slow changes in the participation rate of the population, they do give the appearance of

1954 Economic Report of the President, Hearings, 83rd Cong., 2nd Sess., pp. 806-20.

In 1951 Thomas K. Kitch in "The Meaning and Measurement of 'Full' or 'Maximum' Employment," *Review of Economics and Statistics*, Vol. 33, No. 1 (February, 1951), estimated time lost through both unemployment and underemployment as a ratio of total time that could have been offered to the economy, 1947-49.

More recently Peter Henle, Assistant Director of Research, AFL-CIO, presented a case for unemployed equivalents to be published along with the regular Census report. See U. S. Congress, Joint Economic Committee, *Employment, Growth and Price Levels*, Hearings, 86th Cong., 1st Sess., pp. 521-26.

Table 1. Annual Labor Growth, 1950-58

Year	Annual average total labor force ^a	Year-to- year change	Percent of popu- lation in labor force ^b
	(thousands)		
1958.....	71,284	+538	58.5
1957.....	70,746	+359	58.7
1956.....	70,387	+1,491	59.3
1955.....	68,896	+1,077	58.7
1954.....	67,819	+457	58.4
1953.....	67,362	+952	58.5
1952.....	66,410	+578	58.7
1951.....	65,832	+1,233	58.8
1950.....	64,599	+1,028	58.4
Arithmetic average 1950-58..	68,148	+857	58.7

^a Including armed forces.

^b Percent of noninstitutional population, 14 years of age and over.

Source: Gertrude Bancroft, *The American Labor Force* (New York: John Wiley, 1958), Table 8, p. 13; and U. S. Bureau of Census, Current Population Reports, Labor Force, Series P-50, *Annual Reports on the Labor Force*, Nos. 85 and 89.

smooth steady growth. For the years 1955-60 the Census in 1952 projected an annual growth of about 865,000.³ This was remarkably accurate, as is shown in Table 1. The actual average annual growth, 1950-58, was 857,000.

But what of short-run, year-to-year change? The evidence in Table 1 points rather convincingly to very marked flexibility. In some years during the period 1950-58, the labor force grew by over 1.0 million annually. In other years it grew by less than half a million. The most striking variation in growth occurred in the very two-

year period which Mr. Eden chose to use in applying a proposition based on inflexibility.

In 1956 the labor force increased by nearly 1.5 million, an unprecedented increase and one which was nearly twice the projected "normal" increase. But in 1957, growth dropped to 360,000, the smallest in the decade, less than half of "normal" and less than one-fourth the growth in this base year of 1956.

The reasons for short-run labor force flexibility lie beyond the scope of this paper.⁴ But the evident fact of its existence raises some very serious questions about a proposition based on the assumption of inflexibility.

What of 1956 as the year in which to select a "norm" for the population's propensity to be in the labor force? Civilian employment in 1955 experienced an extraordinary growth, rising from 60 million in the beginning to 64 million at the end. This meant that the nation moved into 1956 with an extraordinarily high level of employment, at least relative to preceding years.

Can the 1956 labor force participation rate of 59.3 percent be considered as a "norm" or does it appear to have been "atypical" in the light of preceding and following years? The answer is provided in Table 1.

³ *A Projected Growth of the Labor Force in the United States Under Conditions of High Employment: 1950 to 1975*, U. S. Bureau of the Census, Current Population Reports, Labor Force, Series P-50, No. 42, December 10, 1952, Table 2, p. 7.

⁴ Both secular and cyclical factors are involved. The evidence appears adequate to support the view that the labor force undergoes unusual expansion in a period of unusual business boom. Behavior of the labor force in recession is not so certain. For an excellent discussion of above-average expansion in cyclical upswings and "borrowing from the future" see Ewan Clague, testimony in *Employment, Growth and Price Levels*, *op. cit.*, pp. 472-80.

Table 2. Unemployment in the United States as Estimated by U. S. Bureau of Census, the International Longshoremen's Union, and Others, by Months, 1957-58

(In thousands)

Year and month	Census unem- ployed ^a	ILWU adjustment for "hidden unem- ployed" ^a	ILWU adjustment for "under- employed" ^a	ILWU total adjusted unem- ployed ^a	Adjustment using "normal" partici- pation rate of 58.7 ^b	Estimated over- employed equivalents ^c
	(1)	(2)	(3)	(4)	(5)	(6)
1956.....	2,551	0	924	3,475		
1957						
Jan.....	3,244	619	986	4,849	3,142	6,009
Feb.....	3,121	204	1,017	4,342	2,623	5,700
Mar.....	2,882	219	1,089	4,190	2,395	6,261
Apr.....	2,690	462	1,062	4,214	2,441	6,149
May.....	2,715	684	1,088	4,487	2,677	6,214
June.....	3,337	532	1,251	5,120	3,128	6,305
July.....	3,007	623	1,182	4,812	2,885	6,224
Aug.....	2,609	1,078	1,138	4,825	2,949	6,186
Sept.....	2,552	978	976	4,506	2,801	6,271
Oct.....	2,508	1,049	996	4,553	2,825	6,244
Nov.....	3,188	1,149	928	5,265	3,609	5,862
Dec.....	3,374	941	1,166	5,481	3,593	6,287
1958						
Jan.....	4,494	868	1,535	6,897	4,651	5,635
Feb.....	5,173	505	1,566	7,244	4,967	4,958
Mar.....	5,198	587	1,759	7,544	5,069	5,220
Apr.....	5,120	488	1,712	7,320	4,888	5,047
May.....	4,904	732	1,651	7,287	4,904	5,434
June.....	5,437	1,066	1,720	8,223	5,753	5,641
July.....	5,294	1,434	1,489	8,217	5,974	5,191
Aug.....	4,699	1,041	1,537	7,277	4,994	5,378
Sept.....	4,111	1,468	1,252	6,831	4,842	5,784
Oct.....	3,805	1,429	1,177	6,411	4,494	5,843
Nov.....	3,833	1,645	1,017	6,495	4,742	5,465
Dec.....	4,108	1,516	1,215	6,839	4,893	6,007

^a Philip Eden, "For More Adequate Measurement of Unemployment," *Current Economic Comment*, Vol. 21, No. 4 (November, 1959), Tables 1 and 2, pp. 27-28.

^b Method of computation same as used by Mr. Eden (Table 1, p. 27) except 58.7 percent substituted for his 59.3 percent.

^c Standard workweek of 40 hours subtracted from the midpoints of the ranges of hours over 40 each month. The remainder, representing man-hours of overemployment, multiplied by the number of nonagricultural workers in each hours interval; the product then divided by the standard of 40 to obtain overemployed equivalents for each month. Data from Table 9 in each monthly report of U. S. Bureau of Census, Current Population Reports, Labor Force, *Monthly Report on the Labor Force*.

For the nine-year period, 1950 to 1958, excluding 1956, the range of labor force participation rates was from a low of 58.4 percent in 1950 to a high of 58.8 percent in 1951. Even including the unusually high figure for 1956, the arithmetic average of the annual

averages for the period was 58.7 percent. Far from being the "last period of sustained full employment," 1956 seems to have been a most unusual year with a participation rate not equaled before or after in the decade.

It would appear reasonable to re-

place Mr. Eden's "atypical" participation rate of 59.3 percent with the 1950-58 average of 58.7 percent and apply this lower rate to the official Census figures. The result of course is a downward revision of ILWU's estimates for each month. This is shown in Table 2 (column 5).

When this more typical participation rate is applied, it will be observed that the ILWU estimates are reduced to about the level of official Census figures and in fact in some months fall below them. The point here is not to suggest that the participation rate of 58.7 percent be used to adjust Census figures, nor to indicate that official data are themselves more desirable. Rather, this hypothetical downward revision merely points to the fact that in the ILWU procedure, choice of base year and participation rate is critical, and that in making this choice Mr. Eden may have been something less than judicious.

The "Underemployed"

A number of objections may be made to Mr. Eden's allowance for underemployment in which he translates persons working involuntarily less than 40 hours a week into fully unemployed equivalents.

For one, the present Census policy of publishing the details of both employed and unemployed permit one to use the data as building blocks in many different ways including the construction of Mr. Eden's unemployed equivalents. But if the data were published as Mr. Eden proposes in one adjusted unemployed total, then the useful analytical details would be lost. Unless of course both Census details and some

sort of adjusted total should be officially published simultaneously. This has been considered officially and proposed privately on numerous occasions in the past.⁵ But the objections seem overwhelming. The procedure would lead to almost certain confusion for the public. It would very likely result in acrimonious statistical combat between the "too high" and the "too low" schools over which total unemployment figure was the "real" or "right" figure.⁶

A second objection to the concept of underemployed equivalents is that it is self-defeating. Its use is apparently designed to emphasize the serious deficiency in aggregate demand for labor. In reality it does just the opposite. Mr. Eden's critics will be quick to point this out.

The introduction of an hours yardstick is a two-edged sword. Mr. Eden found it useful to raise the count of unemployed via underemployed equivalents. But what of the overemployed? If one wishes to measure unemployment by means of a standard workweek then it is logical to compute overem-

⁵ See James W. Knowles, "Computation of Full-Time Equivalent Unemployment," staff memorandum, in U. S. Congress, Joint Economic Committee, *January 1958 Economic Report of the President*, Hearings, 85th Cong., 2nd Sess., pp. 163-65. Mr. Knowles' proposal would raise Census unemployed totals by about 25 percent.

⁶ The Census has faced strong criticism that its unemployed total is much "too high"; that the total includes marginals, unemployables, ne'er-do-wells, floaters, and so forth. For criticism that the unemployed count also includes workers actually employed see Congressman William H. Ayres (Ohio) in U. S. House of Representatives, Committee on Education and Labor, *Unemployment Statistics*, Hearings, 85th Cong., 2nd Sess., pp. 38-39.

ployment equivalents. What happens when this is done is shown in column 6, Table 2. Persons who have "too many" hours, even in a recession, offset those who have "too few." Eden's equivalent technique boomerangs. His underemployment equivalents disappear and with them his "too low" argument.

No one of course would seriously argue that because millions of persons have "too many" hours of work, we should not be concerned about those who have "too few." The point of overemployed equivalents is to show that Mr. Eden's technique shifts the 1957-58 unemployment problem from one of *unemployed persons* to one of *maldistribution of man-hours*. The aggregate number of man-hours offered by the economy to the labor force in this recession was surprisingly high and by pointing to it Mr. Eden goes far to defeat his own purpose. He invites a statistical controversy which he cannot win and which would draw attention away from the very problem he presumably wishes to emphasize.

When one considers allowances for "hidden" unemployment and underemployment together, there emerges another, and perhaps even more significant, objection to the total ILWU procedure. Does it stand the test of experience as a meaningful measure of labor force change? More specifically one might ask, If Mr. Eden's estimates had been used for anti-recession policy making in 1957-58, would they have served the national interest?

It will be observed from Table 2 that Mr. Eden's adjustments yielded an unemployment total of nearly 5.0 million in January, 1957. This would have

been about 7.0 percent of the labor force and would have suggested that federal policy should be alerted for major action in case unemployment rose higher.⁷ After fluctuating around 6.5 to 7.0 percent in the spring and summer months, Mr. Eden's unemployment estimates rose to about 8.0 percent of the labor force in the late months of 1957 and then up to 7.0 million or 11.0 percent of the labor force in early 1958. This would have called for a major anti-depression program under any reasonable interpretation of the Employment Act of 1946.⁸ Would this have been wise at this time? It would not. It would have been a major blunder. It might well have jeopardized the future usefulness of the act.

The recession of 1957-58 proved to be moderate and short. The primary factor was the liquidation of inventories which led the late Professor Sumner Slichter to point out early in 1958 that this liquidation had about run its course by the last quarter of 1957 and recovery should soon set in. It did. After leveling off for a few months, inventories started up again. By August, 1958, unemployment, seasonally adjusted, began to decline. Meanwhile employment had remained high in the entire nonmanufacturing segment of the economy. The cost of living rose right through the recession. Average

⁷ Based on labor force size as determined by Census.

⁸ Unless, of course, one raises the minimum standard of a tolerable unemployment rate to a new and higher level, say, 8.0 percent or thereabouts. But if this is done then Mr. Eden's adjustments would serve no purpose.

weekly earnings of manufacturing workers reached a new high as early as September, 1958. Construction contracts reached an all-time high in June, 1958.

Under these circumstances a massive injection of deficit spending dollars by the federal government early in 1958 would have taken effect just about the time recovery was well advanced. Little new employment would have been created. Price inflation would have been the principal result. The government's action would have looked foolish to everyone including organized labor.

Next Steps in Labor Force Measurement

One final over-all objection may be made to the ILWU approach to the measurement of unemployment. It diverts attention from the real and pressing needs in labor force statistics.

Twenty years' experience with present labor force measurement techniques indicates we are reasonably well equipped to measure aggregate unemployment of the magnitude experienced in the 1930's. This is a major accomplishment for which federal labor economists may take a full measure of credit. But it is just a beachhead. We need to take the next steps toward better understanding of our human resources. Five needs stand high in order of priority.

(1) There is the need for continued refinement of basic concepts and classification. Present concepts have evolved over time from experience, experimentation, study, criticism, and need.⁹ Pos-

sible alternative improvements have recently been or are currently under study and review both in and out of government.¹⁰ Several appear promising. They would go far toward meeting the criticism, or at least the needs, of the "too low" school without breaking the continuity of the present labor force series.¹¹

(2) There is a need for greater study of the "why's" of labor force characteristics. Understandably emphasis up to now has been appropriately on the first step in measurement: "what." Now we need more qualitative information. To illustrate: in 1957 the average level of unemployment was 3 million. The number of different persons experiencing unemployment at some time during the year totaled 11 million. This large number would have been even higher

and Comparability," *American Journal of Sociology*, Vol. 54, No. 4 (January, 1949), pp. 338-55; and U. S. Bureau of the Census, *Concepts and Methods Used in the Current Employment and Unemployment Statistics Prepared by the Bureau of the Census*, Current Population Reports, Series P-23, No. 5, May 9, 1959.

¹⁰ U. S. Bureau of the Budget, Office of Statistical Standards, *Interim Report of the Review of Concepts Subcommittee to the Committee of Labor Supply, Employment and Unemployment Statistics*; Conference of the Universities-National Bureau Committee for Economic Research, *The Measurement of and Behavior of Unemployment* (Princeton: Princeton University Press for the National Bureau of Economic Research, 1957).

¹¹ Especially the recommendations of Gertrude Bancroft which would change the present two-way classification of employed and unemployed into a logical three-way break: employed, partially unemployed, and totally unemployed. See her discussion in *The Measurement and Behavior of Unemployment*, *op. cit.*, pp. 97-99.

⁹ Philip Hauser, "The Labor Force and Gainful Workers — Concept, Measurement,

had it not been for the "repeaters."¹² Who are these people? Why do they have this kind of labor market experience? To illustrate in a different area: we know the participation rate of women in the middle-income families has increased steadily in the last decade. Why? Are economic or noneconomic factors or both involved? We know very little about this kind of behavior. Research in this area has been quite elementary and our measurement techniques now are not much better than they were twenty years ago.¹³

(3) There is a need for greater selectivity in labor force statistics, especially by local labor market area. Until recently major emphasis of measurement techniques has been on national aspects. But postwar unemployment has been highly selective by age groups, industry, and area. The year 1959 was one of strong recovery in almost all parts of the economy. Yet in July, 17 major labor market areas and 53 smaller ones were areas of serious surplus labor supply, i.e., had unemployment rates at least 50 percent above the national average during four of the five preceding years.¹⁴ We need to know about the total labor force and non-labor force in these communities as well as the number of employed and unem-

ployed.¹⁵ Past experimentation should provide a basis for expanded exploration of local labor force statistics.

(4) There is the need for better understanding of the labor force potential. This would include the so-called secondary or temporary labor force consisting of those persons not regularly and permanently in the labor force but who move in and out over time.¹⁶ This suggests a tertiary force consisting of those who have not been in the labor force and do not plan to enter it, but who *would* do so if wages, hours, and job opportunities were sufficiently available and attractive. Another very large group is the underemployed force consisting of persons who are fully employed but are working at low productivity jobs far below their existing or potential capabilities.¹⁷

¹⁵ This country has done little in programming for selective unemployment. One reason may be our limited amount of selective labor market statistics. See William H. Miernyk, "British and American Approaches to Structural Unemployment," *Industrial and Labor Relations Review*, Vol. 12, No. 1 (October, 1958), pp. 3-19. A beginning toward better local labor market analysis for problem areas has been made with U. S. Department of Labor, Bureau of Employment Security, *Chronic Labor Surplus Areas, Experience and Outlook*, July, 1959; and U. S. Congress, Joint Economic Committee, *The Structure of Unemployment in Areas of Substantial Labor Surplus*, Study Paper No. 23, prepared by the Bureau of Labor Statistics, 86th Cong., 2nd Sess.

¹⁶ For a provocative exploratory paper see Richard C. Wilcock, "The Secondary Labor Force and the Measurement of Unemployment," *The Measurement and Behavior of Unemployment*, *op. cit.*, pp. 167-210.

¹⁷ Louis J. Ducoff and Margaret J. Hagood, "The Meaning and Measurement of Partial and Disguised Unemployment," *The Measurement and Behavior of Unemployment*, *op. cit.*, pp. 155-66.

¹² U. S. Congress, Joint Economic Committee, *The Extent and Nature of Frictional Unemployment*, Study Paper No. 6, prepared by the Bureau of Labor Statistics, 86th Cong., 1st Sess., p. 32.

¹³ Gertrude Bancroft, "Factors in Labor Force Growth," paper presented before the American Statistical Association, Washington, D. C., December 27, 1959.

¹⁴ *The Labor Market and Employment Security Review*, August, 1959.

(5) There is the need for greater coordination of and perhaps reorganization of present federal publication procedures. At one time the three major federal statistical staffs in the field of monthly labor market statistics were in separate departments of the government. This led to constructive rivalry. The professionals of each were forced to exploit their respective techniques to the fullest. They were kept active in experimentation to meet future needs and secure congressional approval. But this arrangement also led to confusion, especially on the part of nonprofessional users of the statistics. Today all three staffs are in one agency, the United States Department of Labor.¹⁸ Despite this fact it is still necessary for anyone desiring even a limited study of the nation's labor market to consult three major monthly journals and numerous mimeographed releases.¹⁹ It would be a reasonable expectation that all labor market statistics could be combined into one "Monthly Labor Market Review" and that the vast range of materials falling into the

union-management orbit could be published in a separate "Monthly Industrial Relations Review."

Conclusion

Mr. Eden says Census unemployment estimates are "too low." The case he presents in support of this claim is not very convincing. An assumption of labor force inflexibility seems unsupported by the evidence. The selection of a single year as a basis for establishing a "normal" labor force participation rate of the population under conditions of high-level employment is open to serious question. The selection of 1956 as this single year appears particularly inappropriate.

The development of underemployed equivalents using 40 hours as a standard changes the nature of the 1957-58 unemployment problem from one of overall deficiency in labor demand to one of maldistribution of man-hours. This does not support the "too low" school of critics.

The best test of any measurement technique is use. Had the ILWU adjustments been used for evaluating unemployment in the 1957-58 recession, it is very doubtful that the interest of either the public or organized labor would have been promoted. Yet if the final result of this and other criticism is more useful and meaningful labor force statistics, then Mr. Eden's paper will have served a very useful purpose.

¹⁸ Administratively the Census staff is still in the Bureau of Census, U. S. Department of Commerce, but under contract to collect and tabulate the monthly report on the labor force which is then published by the Bureau of Labor Statistics, U. S. Department of Labor.

¹⁹ *Monthly Labor Review, Employment and Earnings* (including the former *Monthly Report on the Labor Force*), and *The Labor Market and Employment Security Review*.

For More Adequate Measurement of Unemployment: A Reply

PHILIP EDEN

Economist, International Longshoremen's and Warehousemen's Union

IT IS GOOD that Professor Parrish and his associates have joined the debate on the adequacy of the official figures on unemployment. I welcome their comments, for such debate is the necessary crucible from which the truth may emerge. In this case, the truth, we hope, will be a more accurate picture of unemployment than we now have, something which I believe is as much desired by Professor Parrish and his colleagues as by me.

Hidden Unemployment

The concept of "hidden unemployment" is a sound one despite the gentle scoffing of Professor Parrish. It actually does happen that workers who are in need of jobs are not counted as "unemployed," but rather as "not in the labor force." How this happens was described clearly enough in my first article. This tendency of the Census Bureau and the Bureau of Labor Statistics to drop certain unemployed workers out of the labor force is perhaps a major reason why the labor force participation rates go up in good times and down in bad times.

If, for example, we reproduce Professor Parrish's Table 1 and merely add the years 1948 and 1949 so as to get a more complete picture of the entire post-World War II period, is it not immediately evident that the labor force expands in a series of waves, the crests being the boom periods and the troughs the recession periods? Naturally, the labor force participation rates, reflect these surges.

But it is hardly enough to look at these cyclical surges and to conclude, as Professor Parrish and his colleagues do, merely that the labor force is "flexible" over short periods of time. The question is, Why is it flexible in this particular way?

I believe it is inescapable that the civilian population has in it more people who are willing to work if pay and working conditions are favorable than the Census and BLS normally consider to be in the labor force. The obvious example is the peak year during World War II. In 1943, 63.1 per cent of the civilian population participated in the labor force.

Periods of high prosperity draw more

Table 1. Annual Labor Growth, 1948-58

Year	Annual average total labor force ^a	Year-to- year change	Percent of popu- lation in labor force ^b
	(thousands)		
1958	71,284	+538	58.5
1957	70,746	+359	58.7
1956	70,387	+1,491	59.3
1955	68,896	+1,077	58.7
1954	67,819	+457	58.4
1953	67,362	+952	58.5
1952	66,410	+578	58.7
1951	65,832	+1,233	58.8
1950	64,599	+1,028	58.4
1949	63,571	+822	58.0
1948	62,749	+1,141	57.8

^a Including armed forces.

^b Percent of noninstitutional population, 14 years of age and over.

Source: Gertrude Bancroft, *The American Labor Force* (New York: John Wiley, 1958), Table 8, p. 13; and U. S. Bureau of the Census, Current Population Reports, Labor Force, Series P-50, *Annual Reports on the Labor Force*, Nos. 85 and 89.

of the civilian population into the labor force. But the labor force does not automatically contract afterwards when a recession sets in. What actually happens is that workers are laid off and try to find new jobs. New entrants into the labor force encounter difficulties in finding a job. In due course they get tired and stop looking and adopt some alternative status if one is available to them, e.g., student, housewife, or retired person. It is at this point that they are dropped out of the labor force by the Census and BLS. Had a recession not set in, however, these persons would never have been laid off; the new entrants would have landed jobs more readily. Had peak prosperity continued, they would have stayed in the labor force. They do not drop out voluntarily when a recession occurs;

they are forced out. Their adoption of an alternative status is involuntary.

Now it is possible to take a somewhat different view of this sequence of events. The Census and BLS take the view that these persons who come in during periods of full employment are "normally" not in the labor force and perhaps should not be. They consider them to be persons who normally would be students, housewives, or retired persons, and who come into the labor market only because it is unusually attractive. Such an influx is considered by them as an "over-draft" or a "borrowing from the future" or a movement from the secondary labor force into the primary labor force. The "normal" is something below these periods of "forced draft."

The nub of the problem is this: Would the labor force participation rate achieved during the year 1956, for example, have continued *if economic conditions had continued at high and rising levels*. I believe the answer is "yes" — at least for the short run.¹

The basic concept here is the concept of the "full employment labor force participation rate." This is the extent to which the civilian population participates in the labor force during a period of full employment. For the period we are studying, this was obviously 1956. I did not choose 1956 judiciously or otherwise; it chose itself.

¹ The answer for the long run raises basic theoretical questions which are outside the scope of this paper. If we assume a long period of sustained high and rising economic activity, we also assume the solution of the problem of economic cycles. This is too large an assumption for me to be willing to make at this time.

If one intends to study a particular recession, the 1957-58 recession, there was only one previous period of full employment — 1956.

By definition, the concept of a "full employment labor force participation rate" must be limited to periods of full employment. When Professor Parrish and his associates substitute for this concept an average labor force participation rate for the period 1950 to 1958 inclusive, they miss the point. The period 1950 to 1958 includes years of boom and years of recession, all mixed up, and the average participation rate for the period as a whole has no meaning, at least not for the purpose of determining what the participation rate would be in a period of full employment.

The question whether the labor force participation rate in 1956 was abnormally high even for a year of full employment is a separate question and perhaps deserves more detailed analysis. Of course, it should be expected to be higher than less prosperous years — which is all that Professor Parrish proves. But if one looks at the labor force participation rates during periods of full employment for the entire post-World War II period, one does note a tendency for these rates to rise somewhat.

If we take the three peaks, for example, the participation rates were between 57.8 and 58 percent in the 1948-49 period, 58.5 to 58.8 percent in the 1951-53 period, and 59.3 percent in 1956. In view of this tendency for the full employment labor force participation rates to rise — a tendency which perhaps reflects deeper secular trends in

labor force participation during periods of full employment — the rate of 59.3 percent in 1956 does not seem to be out of line, or, if it is, not by very much.

Underemployment

As I indicated in my original article, this is really not a question for serious dispute. The Census and BLS present the data on hours worked and I have merely presented the same data in a somewhat different form.

To be completely logical perhaps we should convert all employment and unemployment into man-hours and let it go at that. If we did this, the increase in hours of unemployment would be even greater than we have shown.

I cannot be impressed with the contention that what I have proposed might be confusing to the public. If one is to take "confusion of the public" as a determinant, one is likely never to make any change at all and even this would not end the confusion. I am sure that Professor Parrish's own explanation of underemployment is clear and would be widely understood.

But it does add considerably to the confusion to throw in a concept of "overemployment" and to assert that this more than offsets the "underemployment."

A certain amount of overtime work is probably unavoidable, particularly during periods of full employment. Even though overemployment is discouraged as a matter of public policy by the Fair Labor Standards Act and by the penalty overtime pay provisions of union contracts, if employers are willing to pay these penalty rates, overtime will be worked.

Table 2. "Underemployed" and "Overemployed" Equivalents, 1956-58

Year	ILWU estimate of "under- employed" equivalents	Párrish estimate of "over- employed" equivalents
	(thousands)	
1956.....	924	6,352 ^a
1957.....	1,073	6,142
1958.....	1,469	5,467
Net change, 1956 to 1958.....	+545	-885

^a Computed by author using Professor Parrish's method of computation.

But this overemployment is voluntary. The underemployment which we are counting, however, is involuntary. To offset the one against the other makes as little sense as cutting a baby in half to satisfy two claimants.

Moreover, as Table 2 shows, there is a decided tendency during recessions for part-time work to increase and for overtime work to decrease. The movement is therefore not an offsetting one, but a movement in the same downward direction.

I should add that my proposal to convert part-time unemployment into full-time equivalents is hardly original. The Joint Economic Committee of the Congress has been keeping a monthly series of these computations for some time now; and the Senate Special Committee on Unemployment Problems has been actively trying to get the BLS to explore some such method of measuring underemployment.²

² U. S. Senate, *Report of the Special Committee on Unemployment Problems*, Senate Report No. 1206, 86th Cong., 2nd Sess., pp. 118-19.

Policy Implications

Policy-makers are entitled to have accurate figures. If they do not, they cannot formulate sound policies. The present understatement of the extent of unemployment is used to justify a do-nothing policy. If the true magnitude of unemployment were known, it would be a force for the adoption of more positive policies by the government.

The labor movement was and is still alarmed at the magnitude of unemployment. The AFL-CIO has made the same basic criticisms as were put forth in my original paper. In addition, the AFL-CIO advanced a further criticism. They question whether the Census sample is truly representative, particularly in depressed areas of chronic unemployment.³

Unemployment was and still is serious. Even now at the peak of another period of prosperity, we have an unusually large core of chronic unemployment. In 1959 the official unemployment rate varied between 5 and 6 percent. At the previous peak in 1956 it was about 4 to 4.5 percent; at the 1951-52 peak it was about 3 percent. These are official Census figures of the totally unemployed and they reflect almost a doubling of chronic unemployment at the peaks of prosperity since 1951-52. If the official figures are alarming, should not policy-makers be concerned if it turns out that these official figures are a substantial understatement of the true picture? Perhaps the tempo of automation and techno-

³ *Wall Street Journal*, November 20, 1959. Also see CIO-AFL, *Get America Back to Work*, p. 2.

logical displacement is far more serious than we have heretofore believed.

This is not the place to argue the question of anti-recession policy by the government and what should have been done or not done to end the 1957-58 recession. It serves no purpose for Professor Parrish and his associates to argue that ILWU figures would have led the government into taking positive measures to end unemployment and that this would have been a "major blunder."

We could contend with equal validity

that the Administration committed a major blunder by failing to alleviate the distress of the unemployed in 1957-58 and is now blundering in failing to face up to the challenge of widespread and chronic unemployment.

To conclude, I believe it is important to emphasize that all I am proposing is the adjustment of the Census and BLS figures in order to make them more useful and meaningful. The proposed data should be regarded as supplementary to the present figures.

Books Reviewed

The State and Economic Growth.

Papers of a 1956 Conference, edited by Hugh G. J. Aitken. (New York: Social Science Research Council, 1959. Pp. x, 389. \$3.75)

Ten of these thirteen papers are case histories of economic growth, with growth loosely defined as increasing output per capita. "The state" is not defined, but the term evidently refers to political entities capable of patternizing the economy. Three general discussions by the planners of the program complete the book. This group picked the cases to harmonize with a model which was submitted to the case students. Beyond this initial sampling of countries and periods, symmetry of treatment was merely suggested.

The countries selected were the United States, Australia, Canada, Russia, Manchuria, Germany, France, Switzerland, Turkey, and six grouped as Eastern Europe. Periods discussed vary widely in length and in location on the time axis of changing world economy and world politics. Note that five examples of frontier expansion come first, representing a type of growth which belongs to the past. Three cases representing western Europe are similarly oriented, developments since the first World War being omitted or barely

mentioned. Notably absent are Britain, the Low Countries, and the typically Mediterranean lands. Manchuria is the only area wholly within Asia and the one treated as colonial. Africa and Latin America are not represented.

In the model "autonomous" or laissez-faire patterns are contrasted with those "induced" by public intervention. "Expansionist" (frontier) and "intrinsic" (internal) growth make up a second dichotomy. "Dominant" and "nondominant" or "satellitic" economies (by implication growing ones) are contrasted, the first largely self-contained, the second relying heavily upon outside resources and markets. The three dichotomies are split and their terms recombined as categories. Thus the United States from 1820 to 1860 is classified as expansionist, autonomous, and dominant. This is one of the best fits to the model. Note, however, that frontier expansion applies only to certain countries, during certain times in the past, and that in this case internal or "intrinsic" development was inseparably associated with it. Also, "dominant" is misleading with reference to a westward movement which depended heavily upon outside markets, goods, and skills. Should Britain be called "satellitic" because of

basic dependence upon outside resources and markets? There is no place in the model for noncontiguous expansion by political means.

The case studies are all workmanlike and illuminating. With one exception, they avoid the model or treat it gingerly as a dubiously helpful classification. The Manchurian case of colonial or injected patternization eludes a "decisions model" which is rejected by Peubens. He finds it generally unsuited to the explanation of processes best described as the pursuit of emerging opportunities by varied public and private agencies. These are viewed as typically cooperative within accepted divisions of labor rather than as struggles between laissez-faire and interventionism.

Carter traces the continuity of Russian industrialization and state intervention from 1890 to 1939, across a Bolshevik revolution which radically shifted emphasis. Spulber's treatment of six "peoples' democracies" is comparable in outlook but restricted to contemporary times. Examples of sound work could be multiplied, space permitting. Spengler's "summary and interpretation" is in effect a review, many times the length of this one. It helps to coordinate the book and might well be read first.

Hartschorne's general discussion of unevenly distributed resources among "state areas" is oriented to the contemporary world situation. This limitation makes it feasible to touch upon conditions outside the areas covered by the case studies. The paper is critical of the model for application to a subject matter which does not involve

concern with comprehensive explanations of history.

In the reviewer's opinion, the book deserves to be widely read. It sheds light on familiar cases which are often carelessly referred to as examples of successes or failures without noting that these need not be expected under different conditions. A special merit is the examination of cases which will be less familiar to many readers. The program was not oriented to planning or prediction, as Spengler makes clear in a modest and critical appraisal of the results.

M. M. KNIGHT

University of California (Berkeley)

Public Housing in Action: The Record in Pittsburgh. By Robert K. Brown. (Pittsburgh: University of Pittsburgh Press, 1959. Pp. xv, 107. \$3.00)

If one is interested in certain statistics relating to the public housing program in Pittsburgh—mainly characteristics of the units and their financing plus some data concerning the Pittsburgh housing stock—he will find them conveniently assembled in this little book. There is also an attempt to measure the difference between the payment in lieu of taxes made to the city by the Pittsburgh Housing Authority and the local property taxes which would have emanated from the housing which the project residents presumably would have occupied had there been no public housing. The measurement indicates that the payment in lieu of taxes is the lesser amount and that public housing thus represents an immediate tax loss to the city. This is hardly a surprising

result given the nature of the public housing formula. What is surprising is the author's evident belief that this result constitutes some sort of indictment of the public housing program. On page 66 he states:

The results of this analysis indicate the following reasonable conclusion: public housing is not bearing its fair share of the cost of municipal services furnished to the project tenants. That the slum areas are not paying their fair share either is an accepted fact and one of the cardinal reasons for eliminating slum areas from the city. Therefore, that which replaces the slum dwelling should alleviate this condition. Yet the study results indicate that public housing projects require a larger subsidy than the slum housing area.

After a brief chronology in Part I of the legislative evolution of the public housing program, including a discussion of the change in its objectives from depression recovery to welfare, the author devotes Part II to a recitation of facts and figures concerning local housing conditions and the public housing program in Pittsburgh. Most of the information is drawn from the records of the Housing Authority or, in the case of housing conditions, is based on census data and material compiled by the Pittsburgh Housing Association.

In Part III — "Conclusions and Recommendations" — the author pronounces the public housing program a failure, mainly on the puzzling grounds that the number of units built has fallen far short of the needs. No serious attempt is made to indicate or defend the magnitude of the alleged needs. The author then proposes as an alternative a combination of code enforcement, liberal financing, and rent certificates.

The economic aspects of these devices are treated very lightly along familiar lines. Little attempt is made to relate the analysis of Part III to the empirical material in Part II. For the most part, the critical questions involved in an evaluation of the public housing program are hardly mentioned, if at all, either in a nationwide context or on the local "case history" level of the study.

A. H. SCHAAF

University of California (Berkeley)

Measurement: Definitions and Theories.

Edited by C. West Churchman and Philburn Ratoosh. (New York: John Wiley, 1959. Pp. viii, 274. \$7.95)

A symposium may be an organized battle between well-defined points of view or it may be a hunting party in which the participants pour their fire into an agreed target. The present symposium is a hunting party, but a Pickwickian one in which one man is stalking deer while another is banging away at butterflies. As might be anticipated, the party scatters over the whole landscape, a few hunters sustain flesh wounds from stray shots of their colleagues, and no very large game is brought down. The papers, first given at the 1956 meeting of the American Association for the Advancement of Science, are here offered with updated references, as an assortment of viewpoints that might interest policy-makers and scientists.

The stimulus word "measurement" sets off entirely different chains of thought, depending on whether the writer is philosopher, operations re-

searcher, psychological experimenter, or mathematician. Moreover, the writers vary in ambition, from Kircher, who seeks only to convey that measurement is important in business nowadays, to Davidson and Marschak who provide twelve formal definitions, extract therefrom four theorems on utility functions, and report experimental tests. As a result, the general reader is provided with a cross-sectional sample of what people concerned with the metatheory of measurement are up to.

There are papers on whether operational definitions are necessary (Pap, Caws), on whether the uncertainty principle implies limits on what can be measured (McKnight, Margenau), on axioms required in building models for measurement (Menger, Suppes), and so on. Of widest interest among economists will be Churchman's argument for decision theoretic analyses of scientific problems, and the four papers on measurement of utility. Coombs, and Davidson and Marschak represent current psychological experimentation on choice, as employed in refinement of utility models. Stevens, in an especially well-written paper, summarizes his thinking on types of scales, on their implications for statistical analysis, and on the replacement of Fechnerian functions by his "power law" for so-called prothetic continua. Importantly, he argues that utility is very likely prothetic and that the Fechner-Thurstone assumptions, the conventional logarithmic utility function, and the experiments on gambling and choice are ill-conceived. Luce's paper here is a small fragment of the thinking leading to his monumental *Individual Choice*

Behavior (New York: Wiley, 1959), a source which places Stevens, Davidson and Marschak, and Fechner in a balanced perspective.

The symposium could have been vastly improved had writing been directed toward some one audience. As matters now stand, the nonexpert reader is sure to be lost amid the talk of eigenspaces from the mathematician, synthetic statements from the philosopher, and discriminial processes from the psychologist. A controversial viewpoint is presented (sometimes by two papers), with no provision for hearing the other side of the argument. The editors add no words to help the reader appreciate the diverse and usually technical papers, and they arrange the papers in a sequence which obscures connections.

Had they been published in 1956, these reports on unfinished business would have been a useful companion to such other symposia as the *Decision Processes* of Thrall, Coombs, and Davis and the *Minnesota Studies in Philosophy of Science*. In the 1960's, we can expect symposia to be supplanted by integrative treatments in which a single author selects a unified aspect of this overbroad field and presents it lucidly.

LEE J. CRONBACH

University of Illinois

The Executive Overseas. By John Fayerweather. (Syracuse: Syracuse University Press, 1959. Pp. xi, 195. \$4.00)

The subtitle of the book is "Administrative Attitudes and Relationships in a Foreign Culture," an informative description of its content. It is a report

on a research study (observation, interviews, analysis, generalizations, and recommendations) dealing with the special problems of United States executives representing American companies in Mexico. However, in preparing the report the author has broadened the scope of the study by drawing on his extensive experience abroad, particularly in Western Europe, and by using the reports of other observers throughout the world.

The major thesis is that foreign cultures differ in material respects from the culture of the United States. Therefore it is a common experience for the foreign-based executive of an American company to find that the values which he has learned to use in the United States as standards for judgment and the methods which have brought success to him in his business career at home may be sources of conflict and organizational failure in foreign administration. The author recommends that the United States executive abroad try to understand the cultural sources of such conflict (which he describes in considerable detail) and go slowly in attempting to alter deep-seated personality characteristics of foreign-born personnel.

As the trend toward the increased involvement of Americans abroad has developed, the literature has swelled. Among other books this trend produced *The Ugly American*, a widely known best seller, in which the egocentricity of many of our representatives in foreign lands was made uncomfortably clear. It also produced the present, more scholarly work, in which the behavioral sciences are ably applied to the prob-

lems of United States companies abroad. The all-too-common lack of insight into the differing points of view of foreign peoples is described and analyzed in terms of cultural roots, with occasional bows to the American executive abroad who, through intuition, logic, or training, is able to operate with due caution in dealing with unfamiliar images conditioning behavior.

The variety of cultural differences described is a fascinating aspect of *The Executive Overseas*. These differences range from the presumably minor problem of the unwillingness of the privileged classes to do manual (low status) work — the author indicates that there is some evidence of change — to the relative lack of interest in “efficiency” and productivity which are subordinated to the importance of maintaining established relationships.

. . . situations arise in which the demands of maintenance of personal relationships conflict with specific obligations of management efficiency as conceived by United States executives. . . . The structure of Mexican industry may be such that the company is wiser to stick with a supplier who does not give perfect service, but with whom they have . . . a tie which assures at least minimum performance. (p. 77)

The author makes an interesting comparison of the authoritarianism of foreign managers and the submissiveness of the managed to “the group-oriented attitudes [which] are part of the dominant ideology of the current culture of the group from which a large proportion of United States executives are drawn” (p. 17).

The last three chapters are concerned with the possibilities for change and an examination of company policies which

might prove to be appropriate in foreign situations. The author does not fall into the egocentric trap which he is describing by assuming that the job involves reorienting others to our ways of administration.

... we see an individual for whom the accepted pattern of life is the fullest possible expression of personal inclinations, but with necessary attention to preserving the structure of alliances which sustain his position. The requirements of disciplined management action stand apart from this pattern. Increasingly they must be accepted as prerequisites for material advancement in life, and they appear to be finding more and more actual acceptance in the personal attitudes of [foreign] executives. On balance, however, the pressures of the culture are set against them. . . . Currently, however, the demands of industrial expansion are severely testing these cultures. . . . Recognizing the shortcomings of our own society in providing full satisfactions for our people, we may wish the peoples of other lands well in their quest for a new cultural formula. (p. 79)

To the student of the behavioral sciences who is interested in their application to on-going organizations, this study offers interesting applications to the burgeoning problem of foreign administration. To the business executive who is struggling with unfamiliar administrative problems overseas, *The Executive Overseas* might well prove to be an eye-opener and a guide to re-orientation of personnel policies in foreign operations.

STEWART Y. MCMULLEN

University of Illinois

Modern Organization Theory: A Symposium of the Foundation for Research on Human Behavior. Edited

by Mason Haire. (New York: John Wiley, 1959. Pp. x, 324. \$7.75)

This set of ten papers gives a lively overview of the multiplying theories of organizations. Except for an inadequate representation of the newer experimental work in the simulation of organizations, the volume presents full coverage of contemporary work, from such focused approaches as that of the psychologist Rensis Likert, with his emphasis on motivations in groups, to such broad and global conceptualizations as that of economist Wight Bakke. Many in industry and government talk about the emerging work in organizations; this book provides a survey of the field which will be of great value in courses partially concerned with such phenomena as organizational goals, authority structures, social equilibria, the ecology of organizations, and motivation and personality in organizations.

Many economists will find this book useful as they attempt to anchor their interests in decision theory and in the microeconomics of the firm more adequately in the social sciences. They will find rewards in their study of the contrast between the formality of economist Jacob Marschak's work on "Efficient and Viable Organizations Forms" (Chapter 11) and the richness of the work of economist Richard Cyert and organizational theorist James March on "A Behavioral Theory of Organizational Objectives" (Chapter 3). Because of the amateurism which pervades economics in the use of psychological and sociological concepts, some economists will profit much from the analytic summaries presented by organizational

behaviorist Chris Argyris and anthropologist William Foote Whyte (not to be confused with the journalist-popularizer, William "Holly" Whyte) of work on the relations of personality, attitudes, and motivation to organizational structure.

By and large the pieces are summaries of past work. Except for the contributions of sociologist Robert Dubin on "Stability of Human Organizations" and of industrial psychologist Mason Haire on "Biological Models and Empirical Histories of the Growth of Organizations," there is little new in this volume for those who have been following developments within organizational behavior. But perhaps it is therein that the book makes its contributions. Instead of attempting an impossible task in endeavoring to make a synthesis of the field as March, Simon, and Guetzkow did in their *Organizations*, Haire reasonably placed the ten disparate pieces in juxtaposition, writing a short over-all introduction, which provides perspective for those new to the field.

As one studies these essays, one is struck with the partiality of each scholar's work. When one notes the bibliography at the end of each study, one is further impressed with the author's provinciality; he seems to use only the work of colleagues from his own center or his own perspective. Perhaps the Foundation for Research on Human Behavior will accept the ensuing challenge: to provide opportunities so that its conferees might have time to read each other's work. The foundation has encouraged these men to write; now it needs to allow these men to consolidate

and integrate, so that the future development of organizational theory may be less splintered and fragmentary.

This book is an important one, even though rapid developments in organizational behavior will make it out-dated within the decade. The very compilation of these essays will quicken the pace at which the field grows by attracting many from a variety of disciplines into the study of organizational behavior.

HAROLD GUETZKOW

Northwestern University

Railroad Transportation and Public Policy. By James C. Nelson (Washington: Brookings Institution, 1959. Pp. xiii, 512. \$7.50)

In 1955, the "Cabinet Committee" or "Weeks Committee" report on the railroad problem directed attention to what came to be called "the deteriorating railroad situation" and advanced a program to deal with it. Congress eventually responded by enacting the Transportation Act of 1958, which contained very much milder measures than the Cabinet Committee had recommended. The Cabinet Committee report was a brief document and did not contain much factual material or reasoned analysis to support its sweeping assertions and specific recommendations. The Brookings Institution volume under review, prepared by James C. Nelson, represents substantially the same philosophy as the Cabinet Committee report, although it is less specific in its legislative recommendations. The Brookings volume, furthermore, assembles a vast amount of factual material that relates

to the railroad problem. Whether or not one is willing to accept all the conclusions and recommendations, he will find the compilation of facts and the interpretation thereof to be of great value. Especially noteworthy are the chapters on railroad earnings, the passenger deficit, and pricing policies.

It is almost inevitable that a study which concentrates attention on the railroads and their difficulties, yet purports to formulate a sound transportation policy, should be slightly suspect because of its narrow focus. The criterion of sound public policy cannot be solely the improvement of the lot of the railroads, important as that is. Not everything that is good for the railroads is good for the country; there are other interests which must be considered. As one reads the volume, however, it soon becomes apparent that however strongly oriented it may be toward the salvation of the railroads it fails to recommend certain policies commonly advocated to help the railroads but which Dr. Nelson doubtless feels would be unsound or not in the public interest. Dr. Nelson commendably sticks to his principles on these points, but he seems to avoid discussion of such measures as much as possible. To be more specific, Dr. Nelson does not recommend or even discuss restriction of entry in the motor and water carrier industries as a means of protecting railroads from diversion of traffic, a practice which is common in many countries and is carried to extreme lengths in some. Neither does Dr. Nelson advocate railroad control of competing modes of transport; in fact, in one brief sentence he indicates disapproval of such a policy. Neither does

he recommend that unregulated segments of the motor and water carrier industries be brought under regulation to protect the railroads even from unsound and uneconomic practices of such carriers. To recommend these various measures would do violence to Dr. Nelson's philosophy and to the main thesis of his book, which is greater reliance on competition in the transport industry. On the use of "agreed charges" as a railroad competitive weapon the author is noncommittal, but he acknowledges that agreements of this sort might run afoul of the anti-trust laws. Although favoring adequate user charges for the use of publicly provided transport facilities — highways, waterways, airways, and airports — Nelson recognizes that even marked increases in highway user charges would not greatly affect the distribution of traffic among the different modes of transport since these charges, even if increased, would be but a small proportion of the operating costs of motor carriers.

Nelson places great emphasis on the need for a revision of railroad pricing policies. He shows that the traditional railway policy of charging high rates on high-grade traffic, on the assumption that the traffic can stand it, has to give way in the face of new competitive conditions that exist in the industry, especially the ability of the individual shipper to perform his own transport services in his own highway vehicles. In fact, this process of breaking down the traditional rate structure has been going on for a long time, as Dr. Nelson must realize. It has been retarded, however, in the estimation of the re-

viewer, first by the decision of the motor-carrier industry to copy the railroad system of charging, and secondly, by interference from the Interstate Commerce Commission on some occasions when rate reductions were proposed on specific commodities which had traditionally contributed substantially to overhead costs.

The Interstate Commerce Commission comes in for criticism in this volume for interfering both with efforts of the railroads to raise rates and with efforts to reduce rates to meet the competition of other modes of transport. As in the Cabinet Committee report, there is a tendency, in the opinion of the reviewer, to overemphasize restrictions on lowering rates to meet competition and to ignore the wide latitude which carriers have had within which to make competitive adjustments in rates. The study points out that the minimum-rate power has been used to prevent low-cost carriers from exploiting their inherent advantage of low cost, thus protecting high-cost carriers. To the extent that this has been done, the policy of the commission may be justly criticized. The amendment of Section 15a of the Interstate Commerce Act by the Transportation Act of 1958 was intended to prevent a recurrence of instances of this sort, but Dr. Nelson thinks that this may not be enough.

In the reviewer's judgment, the proposal to restrict the minimum-rate power substantially to instances in which rates are below out-of-pocket costs is open to serious question. Where two carriers of the same or different modes have substantially the same unit costs on a fully allocated cost basis,

shall rate cutting to an out-of-pocket-cost level be allowed, thus permitting all rates which are competitive to fall to an out-of-pocket-cost basis? The commission could not prevent this if it is allowed to interfere only when rates fall below out-of-pocket costs. Or consider the very common situation in which a high-cost carrier has been permitted to meet the rates of a low-cost carrier provided its own out-of-pocket costs are covered. Should the low-cost carrier then be permitted to counter with out-of-pocket-cost rates in an effort to recover traffic, again a policy which would end with all competitive rates on an out-of-pocket-cost basis? In the reviewer's opinion the study carries reliance upon competitive forces too far at this point.

D. PHILIP LOCKLIN

University of Illinois

A Moral Philosophy for Management.

By Benjamin M. Selekmán. (New York: McGraw-Hill, 1959. Pp. xii, 219. \$6.00)

The rapidly growing literature in the area of business morality has been significantly enhanced by this little volume by Benjamin M. Selekmán, a mature scholar who writes from a background of sustained personal interest and intellectual activity in this field.

American businessmen, according to Selekmán, are engaged in a commendable search for a moral philosophy to replace the largely discredited "beneficent self-interest" doctrine, under which socially approved behavior consisted largely in following one's acquisitive bent (Part I). However, if businessmen are sincere in their moral

posture, they will have to rid themselves of tendencies toward attitudes of self-righteousness (Part II) and cynicism (Part III), especially evident in their behavior toward labor and government. These attitudes are incompatible with our Judaeo-Christian and democratic credo, which stresses the dignity and equality of man. But management must also avoid the other extreme: a temptation to assume a moral role impossible of fulfillment not only because of deficiencies in our knowledge in the technical and human spheres and the ever-present temptations to abuse power, but also because the imperatives of business — the pressures of competition and the drive to cut costs — usually act to prevent businessmen from actually doing what they feel they ought to do (Part IV).

Selekman takes the position that, in an economy such as ours — which is best understood in terms of Commons' approach to economics (Part V) — the only dependable basis for management morality is constitutionalism (Part VI). Since its actual operation involves negotiation between equals, constitutionalism would require a sharing of power by business. This institutional arrangement would provide a framework through which distributive justice and equitable treatment of the various groups participating in economic life could very largely be achieved, in Selekman's view.

The scope of the moral philosophy developed in Part VI, it should be observed, is considerably narrower than the scope of management's activities. In the first place, the term "management" is used to refer only to "business

management." Secondly, reflecting Selekman's own background, his concern in this work is mainly labor-management relations, with occasional references to government-business relations. Even within the labor-management area, "labor" usually seems to refer to "organized production workers," although at one point some attention is paid to other working groups. Responsibilities of business management with respect to competitors, suppliers, and customers, however, are not touched upon at all. Thus, the reader interested in a full-orbed moral philosophy for management must look elsewhere.

"Justice through constitutionalism," as a philosophical basis for management policy, will undoubtedly meet with skeptical, even hostile, response. To businessmen and others of the "sacred rights of management" persuasion, of course, Selekman's share-the-power approach will be completely unacceptable. Even the less doctrinaire may find it too automatic — too reminiscent of "justice through the free market." Of course, if we *define* as "just" that state of affairs which results from the operations of the free market, constitutionalism, or any other set of institutional arrangements, without appeal to any higher sanction, there obviously can be no argument. But even Selekman himself seems uneasy with this solution, as evidenced by a single statement on the last page of the book, in which he declares that the moral obligation of management goes *beyond* constitutionalism!

This matter of "going beyond" is only one aspect of a larger problem — management's moral responsibilities

within the sort of negotiatory framework proposed by Selekmán, which he might with profit have developed further. There is the question, for example, of the extent to which management "should" resist demands of workers, nonunion as well as union, in view of its responsibilities to other economic groups. Selekmán's only advice seems to be to let relative power, channeled through a constitutional framework, determine the outcome — a "might makes right" approach to economic justice.

One may venture to predict that this book will not have a colossal impact upon the practice of business management. Not only is Selekmán's approach to business morality likely to be at least partially unacceptable to many but his compulsion to defend at some length trade unions and their position on many issues, e.g., inflation, corruption in the labor movement, executive salaries, management prerogatives — even when these topics in some cases are only remotely related to his main arguments — will tend to antagonize the management-oriented reader, regardless of the validity of his major points.

Perhaps the main contribution of the book, apart from its clear presentation of a particular viewpoint concerning business management's moral responsibilities, is as an antidote to some of the more naïve pronouncements in this whole area. Selekmán has pointed up effectively certain factors that frustrate businessmen in their attempts to practice morality and also some of the contradictions between practice and preachments. There is real merit for students, teachers, and practitioners of business management in coming to

grips with issues such as business ethics, which are all too often treated in a superficial, offhand fashion. The present work, though not in intent or in fact a definitive study, is worthy of serious attention by virtue both of its subject matter and of its author.

THOMAS E. VAN DAHM

Hope College

Common Stocks and Business Cycles.

By Edgar L. Smith (New York: William-Frederick Press, 1959. Pp. 226. \$10.00)

The author agrees, in his new book, with Santayana's statement that "He who cannot remember the past is condemned to repeat it." Mr. Smith has not forgotten the past, and as a long-time student of the basic causes and patterns of cyclical behavior in economic series, he has been able to crystallize his thoughts and observations into a definite conception of the forces which underlie the business cycle. Mr. Smith, a leading economist and investment analyst, is the author of such notable works in the field of investment and security analysis as *Tides in the Affairs of Men*, "Speculation and Investment," and *Bankers' Gold*.¹ His numerous articles and monographs have been published in leading academic and professional organs and he is a speaker of wide renown.

In Part I the author uses a review of the past as a foundation for his present point of view. He refers often to the

¹ *Tides in the Affairs of Men* (New York: Macmillan, 1939); "Speculation and Investment," *Atlantic Monthly*, October, 1925; *Bankers' Gold* (New York: Simon and Schuster, 1933).

impact of his earlier book, *Common Stocks as Long-Term Investment*,² in the development during the 1920's of the "common stock theory" of investment and notes unhappily that one admonition was widely overlooked in the haste of its readers to find comfort in the frenzied speculations of the day. That timely admonition concerned the necessity for sound professional investment management as the *sine qua non* of successful common stock investment. The advice has not lost its timeliness in the ensuing 35 years.

Mr. Smith's account of the 1929 crash is in part a simple retelling of an oft-told tale. However, there is nothing unduly repetitive in his summary of the essence of sound portfolio management. He cites three commanding factors in the boom-and-crash psychology of the late 1920's: the rate of interest, the supply of credit, and mood. The last is of much greater importance than the others. In support of his present point of view, the author devotes a chapter to a classic example of man's psyche which was able, much as in 1929, to engulf both investors and the public at large — the evolution of John Law's Mississippi Bubble in the eighteenth century.

In Part II, the author cites the need for a broader approach to the study of business cycles. The works and thoughts of such notables as Wesley C. Mitchell, Frederick A. Stokes, and Leonard P. Ayres are used to point up the diversity and confounding nature of the forces which initiate cyclical swings. With citations from such writers as Dewey and

Dakin, Garcia-Mata and Shaffner, and Pigou, he focuses attention upon historic interest in the public's capacity to react to external stimuli. Armed with these converging factors in the development of business cycle theory, Mr. Smith is ready to proceed with an exploration of the notion that changes in the relative acid-alkali content of the blood may cause the public to be depressed (when the curve is low) or optimistic and energetic (when the curve is high).

His studies and observations have led Mr. Smith to suggest that economists must accept the challenge of this and other similar evidence which he cites in some detail. They must actively examine the significance and measurement of these unknown forces and their applicability in economic calculations. Among the forces that support the idea that the total environmental change is world-wide is, of course, the weather. Therefore, rainfall at Bern, Switzerland, and at various points on the earth's surface is discussed by the author as an approximate index of total change in environmental conditions. Sunspot classification is suggested as having some (not necessarily a commanding) influence on environment, outlook, people's attitudes, and prices of shares of securities on the New York Stock Exchange. Finally, it is pointed out that a combined weather index is superior to its components as an indicator of probable stock price change. When weather and stock price cyclical patterns are used to confirm each other, even stronger evidence for predictive recurrence is at hand.

In the final chapters of his book, Mr.

² New York: Macmillan, 1924.

Smith relates historic changes in the weather to movements in stock prices. His studies of an 89½-year period in which stock prices have a tendency to move more often than not in the same direction as weather are especially interesting. In fact, the studies show a marked tendency for stock prices to follow the broad pattern of recurring sunspot activity. The analysis offers some evidence to support the idea that a period of such length coincides with the fact that most of the planets are in similar or opposed positions as regards the sun's position. Mr. Smith thus foresees a much closer union of the econ-

omist and the astronomer in the years ahead. He feels that investment managers need today, as they did in the 1920's, a much better method for appraising impending changes in the rise and fall of business with its consequent effects on the prices of securities. This calls for more information regarding the business cycle. The quest for more information has led the author down unexpected paths and, by his own admission, to unexpected conclusions. The book should be interesting to social scientists and physical scientists alike.

ROBERT E. HILL

University of Illinois

Books Received

- Bach, George L. *Economics: An Introduction to Analysis and Policy*. 3rd ed. New York: Prentice-Hall, 1960. Pp. xiv, 850. \$6.95.
- Bird, Frederick L. *The General Property Tax: Findings of the 1957 Census of Governments*. Chicago: Public Administration Service, 1960. Pp. viii, 84. \$3.00.
- Bowen, William G. *The Wage-Price Issue: A Theoretical Analysis*. Princeton: Princeton University Press, 1960. Pp. xvi, 447. \$8.50.
- Conard, Joseph W. *Introduction to the Theory of Interest*. Berkeley and Los Angeles: University of California Press, 1959. Pp. xx, 375. \$7.50.
- Duesenberry, James S., and Preston, Lee E. *Cases and Problems in Economics*. New York: Prentice-Hall, 1960. Pp. xv, 195. \$2.50.
- Grampp, William D. *The Manchester School of Economics*. Stanford: Stanford University Press, 1960. Pp. ix, 155. \$4.00.
- Grew, Frederick J. *Wealth and the Common Man*. New York: Philosophical Library, 1959. Pp. viii, 184. \$3.75.
- Korteweg, S. and Keesing, F. A. G. *A Textbook of Money*. New York: Longmans, 1960. Pp. xx, 308. \$7.00.
- McNaughton, Wayne L. *Introduction to Business Enterprise*. New York: Wiley, 1960. Pp. xii, 538. \$6.25.
- Penniman, Clara, and Heller, Walter W. *State Income Tax Administration*. Chicago: Public Administration Service, 1959. Pp. xiii, 280. \$7.50.
- Penrose, Edith T. *The Theory of the Growth of the Firm*. New York: Wiley, 1959. Pp. viii, 272. \$6.00.
- Peterson, Wallace C. *The Welfare State in France*. Lincoln: University of Nebraska Press, 1960. Pp. 115. Paper, \$1.50.
- Robinson, Roland I. *Postwar Market for State and Local Government Securities*. Princeton: Princeton University Press for the National Bureau of Economic Research, 1960. Pp. xxiv, 227. \$5.00.
- Ulmer, Melville J. *Capital in Transportation, Communications, and Public Utilities: Its Formation and Financing*. Princeton: Princeton University Press for the National

- Bureau of Economic Research, 1960. Pp. xxxviii, 548. \$12.00.
- United Nations, Food and Agriculture Organization. *FAO Mediterranean Development Project*. New York: Columbia University Press, 1960. Pp. xix, 213. \$2.00.
- U. S. Senate, Special Committee on Unemployment Problems. *Report of the Special Committee on Unemployment Problems*, Pursuant to S. Res. 196, together with Minority and Additional Views. Washington: Government Printing Office, 1960. Pp. v, 194. 60 cents.
- U. S. Senate, Special Committee on Unemployment Problems. *Studies in Unemployment*. Washington: Government Printing Office, 1960. Pp. viii, 432. \$1.50.
- Vaccara, Beatrice N. *Employment and Output in Protected Manufacturing Industries*. Washington: Brookings Institution, 1960. Pp. x, 107. Paper, \$2.00; cloth, \$3.00.
- Whitman, Marina von Neumann. *The United States Investment Guaranty Program and Private Foreign Investment*. Princeton: Princeton University, Department of Economics and Sociology, International Finance Section, 1959. Pp. 91. 25 cents.
- Economics-in-Action in the Oil Industry*. Madison: University of Wisconsin, Economics-in-Action Program, 1960. Pp. 121.
- International Migration 1945-1957*. Geneva: International Labour Office, 1959. Pp. xiv, 414. \$4.00.

BUREAU OF ECONOMIC AND BUSINESS RESEARCH

The Bureau of Economic and Business Research, established in 1921, is the research department of the College of Commerce and Business Administration. Economic and business information, including material on tested business practices, is compiled by the Bureau and made available to Illinois businessmen and others interested in business and related problems. Although the major part of its work deals especially with Illinois, the Bureau also engages in general economic research.

Fields in which research is carried on include: accounting; marketing; retail and wholesale trade; resources and industries; transportation, utilities, and communications; banking and private finance; public finance, governmental regulation, and public policy; international trade and finance; labor, public relations, and welfare; and general economic developments.

The results of Bureau investigations are published in the form of research bulletins, business studies, and miscellaneous special bulletins. The following titles illustrate the scope of the Bureau's publications.

Bulletin 82, *The Structure and Policy of Electronic Communications*, by DALLAS W. SMYTHE. (\$1.50)

Bulletin 83, *The Effectiveness of Pharmaceutical Promotion*, by ROBERT FERBER and HUGH G. WALES. (\$2.00)

Bulletin 84, *Experience Rating in Unemployment Compensation*, by CLINTON SPIVEY. (\$1.50)

Bulletin 85, *Consumer-Product Rating Publications and Buying Behavior*, by HUGH W. SARGENT. (\$1.50)

Bulletin 86, *Capacity Utilization and Business Investment*, by DONALD C. STREEVER. (\$1.50)

The Railroad Shippers' Forecasts, by ROBERT FERBER. (\$1.00)

Employers' Forecasts of Manpower Requirements: A Case Study, by ROBERT FERBER. (\$1.50)

Changing Structure and Strategy in Marketing. ROBERT V. MITCHELL, Editor. (\$1.50)

Studies in Consumer Savings 1, *Collecting Financial Data by Consumer Panel Techniques*, by ROBERT FERBER. (\$2.50)

The Bureau also publishes the *Illinois Business Review*, which presents a monthly summary of business conditions for Illinois.

